



# OFFICIAL JOURNAL OF THE SOUTHERN AFRICAN INSTITUTE OF CONSTRUCTION

SEPTEMBER / OCTOBER 2018 VOL. 42 ISSUE 5

















**GRS METAL CLADDING** 

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**COMMERCIAL CATEGORY** 

**WINNER & ENTRIES** 

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WINNER & ENTRIES (PAGE 67 - 72)





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STEASA: Keitumetse Moumakoe, keitumetse@steasa.com



# SAFINTRA FACTORY & WAREHOUSE CATEGORY WINNER & ENTRIES (PAGE 73 - 80)



SAFAL STEEL INNOVATION
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LIGHT STEEL FRAME BUILDING
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**SAISC COMMENT** 

PAOLO TRINCHERO CEO, SAISC

### STEEL AWARDS 2018:

# A SHOWCASE OF RESILIENCE AND EXCEPTIONAL WORKMANSHIP



# THE SAISC IS PASSIONATE ABOUT TRAINING OUR NEXT GENERATION SO WE CAN CONTINUE TO TAKE ADVANTAGE OF OPPORTUNITIES IN SOUTH AND SOUTHERN AFRICA.

This year has turned out to be one of the toughest the industry has faced. Many of the contributors like the South African economy, policy certainty, capacity of large state-owned enterprises to spend and USA tariffs are out of our hands. Despite this we continue to try and influence wherever possible to get things back on track. We should continue to persevere as there are many stakeholders in government, our industry, and labour who are working hard to stabilize the industry.

Despite the enormous difficulties out there our industry continues to produce outstanding work, demonstrating its capability and expertise.

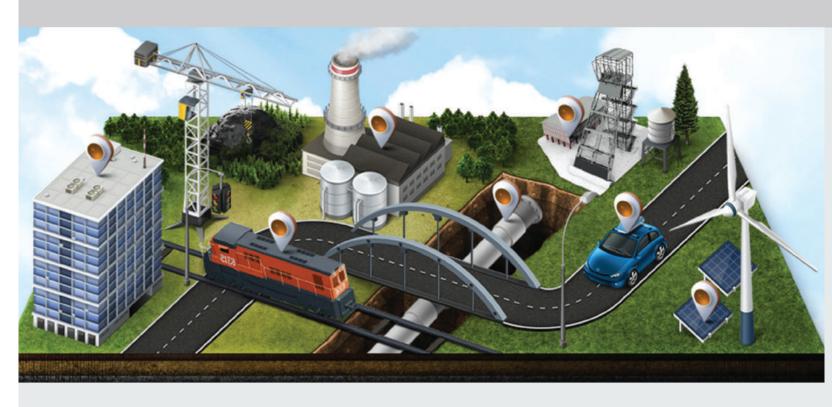
This year we had 74 entries reflecting steel as the material of choice and a signal that we have an industry to be proud of. Steel structures of all types are on display due to the all-round efficiency and sustainability of the material, it's no wonder steel is being used more and more. This made judging a challenging but uplifting experience which is something we all need.

The broad range of projects from residential houses to commercial projects, warehouses, factories, and refurbishment were most encouraging.

This year a number of projects displayed characteristics of an exceptional industry. They showed innovation in every process with the integration of design, detailing, fabrication and erection using modern CNC equipment and software which our industry has invested in so heavily.

The SAISC is passionate about training our next generation so we can continue to take advantage of opportunities in South and Southern Africa. We would like to see the industry working harder on integration and competitiveness as displayed by our winning entries. I would like to thank the entrants which have made this event possible, the judges and the SAISC support team.

This year will be recorded as another one of enormous challenge for our industry but as always we show that we are indeed men and women of steel. I would like to congratulate the winners and encourage our members to continue to participate and grow our industry into the future.



# **Engineered • Steel • Solutions**

Established in 1922, Robor is a world-class South African manufacturer and supplier of welded steel tube and pipe, cold formed steel profiles, structural steel products and associated value added products and services. Robor is active in most industries, including Mining, Transport – rail and road, Construction, Engineering, Agriculture, Energy, Water and Automotive.

Since the acquisition of Tricom, Robor supplies various telecommunication and power distribution systems, such as; Telecommunication Towers, Satellite Communication Structures and Transmission Towers for the distribution of electricity.

#### [ Value Added Services ]

Our range of value added services includes but is not limited to: Hot Dip Galvanizing for corrosion protection, Pipe and Tube cutting (2D and 3D), Punching, Drilling, Coatings and Linings, Pressure Testing, Welding (robotic, stick and submerged arc), Cutting, Wrapping, Painting, Packing, Fabrication of certain components and Ultrasonic Testing.









robor





#### **EDITOR'S NOTE**

**DENISE SHERMAN**MARKETING MANAGER, SAISC

# AN ENERGY BOOST FOR THE **BUILT ENVIRONMENT**



# I THINK WE'RE ALL A BIT "SHELL SHOCKED" AS A RESULT OF INDUSTRY AND ECONOMIC PRESSURE, SO THE RENEWED SENSE OF PURPOSE AND ENCOURAGEMENT THAT STEEL AWARDS BRINGS IS ALWAYS WELCOME.

This is my third Steel Awards season and... wow. All I can say is wow because the entire judging process has been so rigorous this year that I'd have to take a couple of Berocca Boosts and a B12 injection to say much more!

This year, we received an astounding 74 entries. While reviewing, shortlisting, visiting and final adjudication is an energy-intensive process, implementing these projects was (I'm sure) much more taxing on the project teams. I think a hearty "congratulations" is in order. Well done to each and every team member of every project nominated for Steel Awards 2018.

Celebrating successes and acknowledging the people that made these great structures possible is

something that gives tremendous energy to the industry. I think we're all a bit "shell-shocked" as a result of industry and economic pressure, so the renewed sense of purpose and encouragement that Steel Awards brings is always welcome.

I'd like to extend a special thank you to this year's judging team. There were some old and new faces, all of whom embraced the process, gave their time and shared their insights. This year, in addition to considering the judges' observations and comments, we introduced a scoring sheet – which was available to nominators to view as part of their submission pack. We felt that this provided a bit more insight into the criteria all projects would be measured against. While it made the judging process fairly rigorous in terms

of administration, all involved felt that it was a fair process, which gave every project no matter how big or small, a chance to shine. What the scoring facilitated was focus on quantitative criteria that demonstrated what Steel Awards is all about: excellence in the use of steel in construction.

My biggest thank you goes to those who work behind the scenes to make this magical evening and beautiful publication happen. To all SAISC support staff, but especially Liezel Weber (officially our Events and Marketing Communications Manager – but actually more of a "Steel Awards Magician") and Sandra Addinall (Art Director for Steel Construction and the most meticulous person I know!)... Thank you! You rock!



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#### MAIN SPONSOR OF STEEL AWARDS 2018, GAUTENG

#### **PRO ROOF STEEL & TUBE**



Pro Roof Steel and Tube has been servicing the South African steel industry for more than 30 years. After starting out purely as a manufacturer of corrugated and IBR roof sheeting, they have grown immensely and now sport one of the most diverse product ranges in the country.

"Many players in the industry view us as a roofing company. But we are so much more than that" says Peter Potgieter, Sales Manager at Pro Roof Steel and Tube. "By taking up the main sponsorship of Steel Awards 2018 in Gauteng, we aim to generate more awareness among the captains of industry of our diverse product range and capabilities" he adds.

"We endeavour to introduce ourselves to the architects, quantity surveyors, construction companies and consulting engineers with whom we have not yet had the privilege of doing business with" he concludes.

# Pro Roof Steel and Tube has an extensive range of products and services

Pro Roof Steel and Tube currently has three operations, located in Vereeniging, Pretoria and Cape Town. A fourth, state of the art facility will soon to be added in Meyerton, which will have a melting capacity of 40 000 tons and a steelmaking capacity of 30 000 tons monthly. On completion the facility will have created 800 jobs, and be able to produce Angle, Channels, IPE Sections, Reinforcing, Flat Bar, Columns, Beams, Window Sections, Wire Rod and Square Bar.

Their current product range of tubing, lip channels, roofing, rainwater goods, flats sheets, long products, gates and fencing related products are supplied to steel merchants and end users in the building, construction, transportation, engineering and agricultural sectors.

Their roofing division offers an array of rainwater goods along with cranking, curving and bull-nosing services. In order to adapt and compete effectively in these changing times the company has designed its own concealed fix profile, which has been used in various building projects such as Nissan SA in Rosslyn, Sasfin Premier Logistics in Kempton Park and Sky City in Alberton

Pro Roof Steel and Tube entered the steel-making industry in 2015 with the aim of supplying a range of angles, channels and IPE sections to the South African and its neighbouring countries.

The Pro Roof Steel and Tube Service Centre offers slitting and cut-to-length of Hot Rolled, Cold Rolled and Galvanized coils up to and including 2 000 x 16mm plate.

The company's 9 tube mills and the range they manufacture has evolved substantially. Over the years they have gone from supplying light mill tubing to an array of tubing including large bore tubing up to 219 x 6.00mm. Their recent SABS listing enables the organisation to grow its tubing range even further,

allowing them to enter the structural and conveyance tube markets.

### What makes Pro Roof a successful business?

Pro Roof Steel and Tube attributes its success to the fact that the top structure of the company is lean, mean and hands on. Productivity and expenses are closely monitored, and staff are driven to achieve

"People are our most important asset," says Rafik Mohamed, CEO of the Pro Roof Group. "We ensure that our working environment is comfortable with open door policies throughout. Our business philosophy has always been to stay in touch with the market and change with the times, decide what we are good at and master it" he adds.

"In this economic climate, everyone will be trying harder than ever for the same business. Price, quality and service are all important, and managers will need to grow and maintain close working relationships with their customers" he concludes.

Pro Roof Steel and Tube is confident that opportunity exists in the steel construction industry to convince design teams to switch from conventional concrete buildings to steel. "The designs on display at the Steel Awards bear testament to what can be achieved with steel" asserts Noushad Ganey COO of the Pro Roof Group.







Contact: Peter Potgieter Telephone: +27 16 450 5800 Fax: 086 506 9283 Postal Address: PO Box 3047, Vereeniging, 1930 Physical Address: 2 Nuffield Road, Vereeniging Email: peter@proroof.co.za Website: www.proroof.co.za



For more than 30 years, Pro Roof Steel & Tube have been crafting a wide range of steel products to levels of excellence as unrelentingly as the quality steel they use. As one of South Africa's major independent steel companies, Pro Roof is the proud manufacturer of: Tubing and Lip Channels, Roofing and Rainwater Goods, Sheet, Slit, Plate and Coil, Gates and Fencing Products, Angle Iron, Channels and IPE sections.



#### MAIN SPONSOR OF STEEL AWARDS 2018, CAPE TOWN

#### **AVENG TRIDENT STEEL**





# AVENG TRIDENT STEEL, AS THE MAIN SPONSOR AT THE CAPE TOWN STEEL AWARDS, IS REALLY PROUD TO BE INVOLVED WITH THIS EVENT!

Nationally, Aveng Trident Steel has established itself as a preferred and proven supplier of automotive steel solutions and is geographically well situated to service the automotive industry with facilities located across the country. Aveng Trident Steel is a member of the National Association of Automotive Component and Allied Manufacturers (NAACAM) and has a BBBEE rating of level 2. In line with the high specification requirements of the automotive manufacturers, Aveng Trident Steel offers precision processing capabilities that include, but is not limited to, the state-of-theart Blanking Presses especially suited for manufacturing applications with frequent product changeovers.

Aveng Trident Steel provides a vast range of structural steel sections, plate and steel sheet of various sizes, and has a comprehensive range of carbon, alloy and speciality spring steel.

Manufacturing of welded tube is offered, including an extensive range of squares and rectangular sections. The coil processing division offers cutto-length, blanking, slitting, press and tool cutting, angle cutting and edge dressing services.

The vision of putting the right steel product in the right place, at the right price, at the right time is a sustaining discipline which has enabled Aveng Trident Steel to navigate today's uncertain market conditions. All of this coupled with its investment in people with a pedigree of the highest order. The company supplies a wide product range to the steel industry in South Africa as well as Southern Africa.

Aveng Trident Steel is viewed as technologically sound and strategically poised to evolve and progress in an ever-changing global market.

To expand its product offering, Aveng Trident Steel has invested in various capital projects over the past years. One of the more recent includes a high tensile Georg cut-to-length line, capable of processing 1200MPa material. Over the years, Aveng Trident Steel has enjoyed a successful market presence by supplying to

several large Southern African projects. Despite current market conditions, Aveng Trident Steel demonstrates its robust resilience and commitment by contributing as a strategic partner in developing and growing the South African economy.

#### **Products and services**

- Coil & Cut-to-Length
- Coil Slitting
- Pressed Blanks
- Bright Bar Peeling
- Cropping (Round & Flat)
- Guillotining
- Hole Drilling
- Punching
- Tube Laser Cutting
- Cold Formed Sections
- Speciality Products
- Tube
- Beams & Columns
- Channels & IPE's
- Round, Square & Flat Bar
- Plate & Sheet

Contact: Nicole Singh Telephone: +27 11 861 7373 Email: nicole.singh@trident.co.za



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## TESTED TRUSTED TRIDENT

Aveng Trident Steel South Africa is an Aveng Group company offering a one-stop service and diversified product offering to the entire steel industry spectrum in sub-Saharan Africa. Aveng Trident Steel have a B-BBEE rating Level 2 on the new code.

Aveng Trident Steel pride themselves as a leading steel solution provider in Southern Africa, mainly to the automotive, construction, mining, rail and distribution industries. This steel is distributed and manufactured in their extensive steel yards, modern steel service centres and tube manufacturing plant. Aveng Trident Steel specialises in an extensive range of steel solutions for the local and export market, we are industry leaders and proudly South African.

Aveng Trident Steel have a footprint in all nine provinces in South Africa and deliver products throughout the Sub-Saharan Africa market. Aveng Trident Steel's main operation is centrally situated in Roodekop (Germiston, Johannesburg), with other national operations in Cape

Town, Durban, Port Elizabeth, Alrode (Alberton, Johannesburg), Rosslyn (Pretoria) and East London.

Furthermore the addition of a high tech roofing line enabled ATS Cape Town to secure the prestigious Husab mine contract totalling 525 ton of roofing as well as an array of other large projects.

The state of the art modern roofing lines in Cape Town can produce corrugated and IBR profiles. IBR can be produced in 686 as well as 855 cover widths whilst Corrugated can be profiled in 610, 762 and 990 cover widths. The recently commissioned lip channel lines will be complimentary to the current product offering.

Aveng Trident Steel's business is customer-centric, they pride themselves on exceptional service delivery and top products delivered on time, at competitive prices.

**Aveng Trident Steel -Your One Stop Steel Solution** 



Divisions:

Merchanting (011) 861-7111
Coil Processing Division (011) 861-7107
Export (011) 861-7396
Speciality (011) 864-7126
Tube (011) 389-8799
Automotive (011) 861-7197

**CERTIFICATION:** 

11) 861-7197

ISO 9001:2015
Quality

Automotive

East London
ISO 18

Port Elizabeth

Cape Town

Roodekop

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MAIN SPONSOR OF STEEL AWARDS 2018. KWAZULU NATAL

# SOUTHERN AFRICAN INSTITUTE OF STEEL CONSTRUCTION











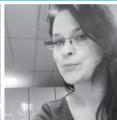




WE ARE HERE TO HELP. OUR CAPABLE TEAM IS ABLE TO ASSIST.

Most of the team members are contactable on +27 (11) 726 6111. Feel free to get in touch!













# THE SAISC HAS BEEN SERVING THE SOUTHERN AFRICAN STEEL INDUSTRY SINCE 1956

The SAISC has been serving the Southern African steel industry since 1956. While our members come from different disciplines, company sizes and streams within the industry, they all have the desire to see the industry grow and thrive. We are honoured to work alongside them to support and promote a sustainable steel construction industry, and we invite you to join us on this journey.

The SAISC is respected as an association for its authority, technical knowledge, and role as the collective voice of the steel construction industry. Our proactive approach and small but dynamic staff compliment enable us to provide insight and support to professionals and companies in the building and construction industry. With a history spanning over 60 years, SAISC has been a key player in the field of

education and training, advancing the level of expertise to new heights.

The SAISC Group consists of:

- The SAISC Structural Steel
- POLASA (Powerline Industry)
- SAMCRA (Metal Cladding and Roofing)
- SASFA (Light Steel Frame Building)
- ASTPM (Steel Tube and Pipe)
- STEASA (Steel Tube Export)

Through each association, we are able to reach and represent the interests of different stakeholders in the steel construction industry.

Despite current global and local economic challenges, our goal remains to be an exceptional Institute, serving a very successful industry. We are committed to undertaking initiatives with the following in mind:

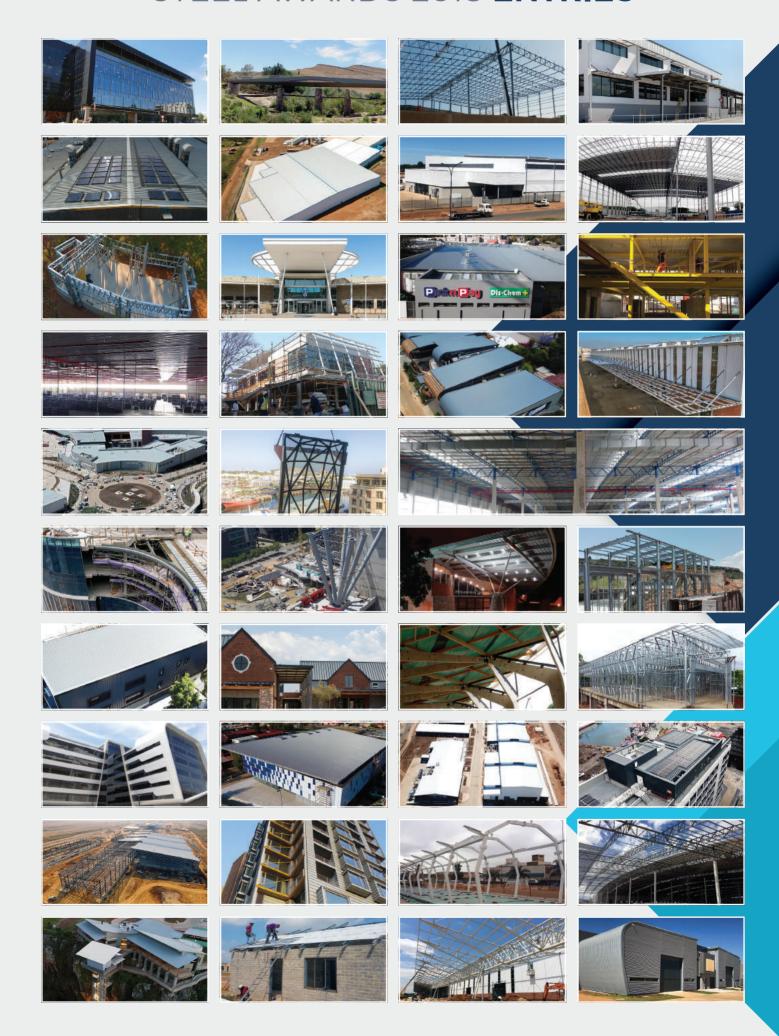
- Long-term prosperity and growth of the industry
- Engaging, and encouraging stakeholders to action that will stimulate growth for our industry
- Gauging our ability as an industry to compete globally

In order to strengthen the industry, we provide members with technical support, marketing and publicity support as well as education, training and networking opportunities. We also actively engage policymakers and other government stakeholders through advocacy and lobbying, for the good of all players in the industry.

Our annual Steel Awards gala dinners are a celebration of excellence in the use of structural steel, and an encouragement to the industry to continue producing amazing structures.

Contact: Denise Sherman Telephone: +27 11 726 6111 Physical Address: 1st Floor, Block C, 43 Empire Road, Parktown Wes Email: denise@saisc.co.za

## STEEL AWARDS 2018 ENTRIES





# **OVERALL WINNER**

#### AND ASTPM TUBULAR & COMMERCIAL CATEGORY WINNER

#### **TIME SQUARE SUN ARENA**

The external box gutter of the arena was originally planned in concrete, however looking at the complexity of building scaffolding, supporting of a concrete gutter and fixing re-bar at >15m high levels and weight limitations, as well as programme, it was decided to re-design the concrete gutter to a steel lattice curved box gutter approximately 4m high, with internal 3mm plate formed gutter. These items were fabricated as complete units from column to column and lifted into position using a 220-ton crane. For the rest of the arena roof, the only possible way to span 100m was with a dome type steer, with a compression ring in the centre.

The design was driven by three elements

- a) Client budget.
- b) Buildability with site constraints being the construction of 100m roof and seating structure on a complete basement structure as the footprint of the site.
- c) Programme, with end dates not moving due to events already booked year in advance for the opening.

Detailing was done in Tekla, in collaboration with the engineers to determine lifting sizes and weights to ensure the steel contractor can erect the steelwork using most economical plant.

It was important to see the 3D model for details such as sheeting and cladding, and to model the lifting procedure and method statement.

Tekla was used to colour in the lifting elements with element weights, which made it clear to the engineer when approving the loads on the slabs and determining the crane positions on the slabs.

Fabrication was done in complete assemblies as far as possible, due to CADCON premises close to site the team could transport

#### **PROJECT TEAM**

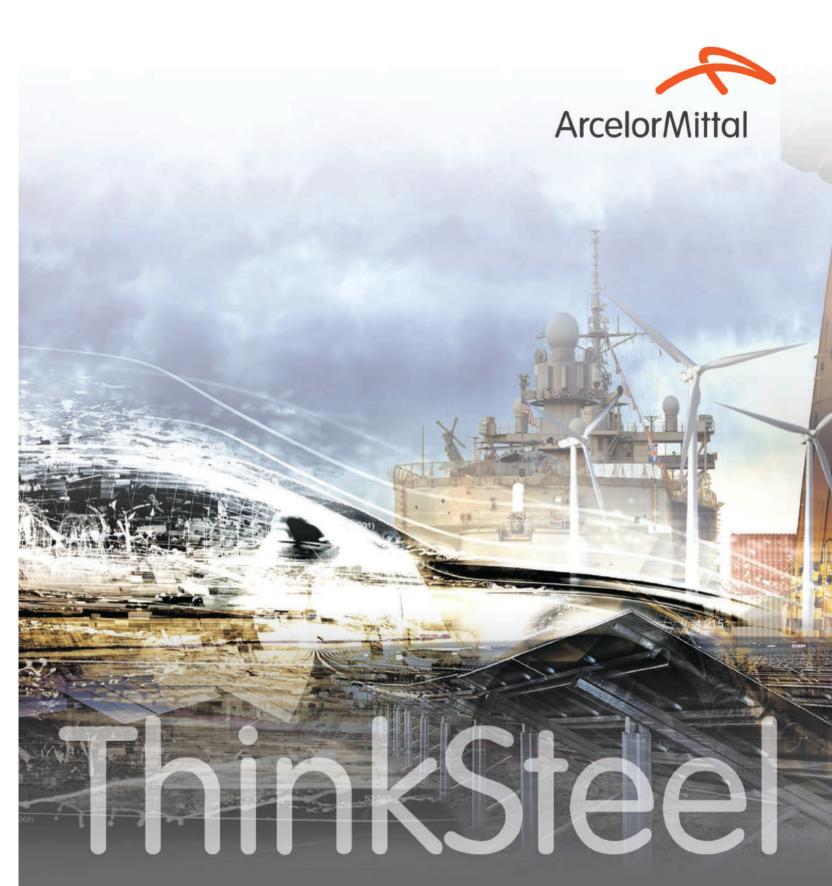
Nominator & Steelwork Contractor - Cadcon (Pty) Ltd | Client/Developer - Sun International

Architect - LYT Architects | Structural Engineer - WSP | Main Contractor - WBHO | Steel Erector - On Par

Cladding Manufacturer & Supplier - Global Roofing Solutions | Cladding Contractor - Chartwell Roofing

Corrosion Protection (paintwork contractor) - Dram Industrial Painting Contractors

Photographer (photo competition) - Sun International



#### We are committed to sustainability

ArcelorMittal South Africa, the country's largest steel manufacturing company is constantly developing new technologies aimed at improving the sustainability of our products. We work in partnership with our customers and suppliers to achieve our environmental goals through innovation in steel solutions.

Scan here to visit the ArcelorMittal South Africa website



# THE JUDGES OF STEEL AWARDS 2018









#### **JUDGES**

#### John Duncan

Director CADEX Systems SA, representing the Joint Structural Division (JSD)

#### **Amanuel Gebremeskel**

Technical Director, Southern African Institute of Steel Construction (SAISC)

#### Keitumetse Moumakoe

Director, Steel Tube Export Association of Southern Africa (STEASA)

#### Franco Mordini

Macsteel Tube and Pipe, representing the Association of Steel Tube and Pipe Manufacturers (ASTPM)

#### Thulani Sibande

Director, Paragon Architects

#### David Van Zyl

Director, Kwikspace - Chairman of/ representing the Southern African Light Steel Frame Building Association (SASFA)

#### **Dennis White**

Director, Southern African Metal Cladding and Roofing Association (SAMCRA)







CEO SAISC, Convener of judges

#### John Barnard

Director SASFA, LSFB observer

#### **Denise Sherman**

Marketing Manager SAISC - Site visit and adjudication coordinator

#### Liezel Weber

Marketing Communications and Events Manager SAISC -Adjudication admin support









# PHOTO COMPETITION **SPONSOR**

Cadex Systems SA supplies and fully support Tekla Structures, the leading 3D Building Information Modelling tool for structures. Our ambition is to multiply users' potential to think and achieve big. We want to improve our customers' businesses.

We put models at the core of construction processes. Tekla Structures is the innovative 3D BIM solution that facilitates accurate design, detailing and management of intelligent structural and building models of any size or complexity with ease and precision. The tools cover all materials and the entire structural design process. Tekla's intelligent models integrate the entire structural project workflow from sales and the initial bid, through detailing, fabrication and erection, to asset management.

It is the most advanced and integrated way to manage the shop-detailing, fabrication and erection of all steel structures. Tekla Structures is a model based system that reduces errors, increases productivity, and provides the highest levels of automation of fabrication and project management by interfacing with the MIS and CNC machinery.

Tekla Structures BIM software provides an accurate, detailed and data rich 3D environment that can be shared by structural engineers, architects, concrete rebar detailers, steel detailers, project managers and clients. At every stage the detailed models enable the highest level of constructability and production control.



The Software Maintenance Agreement benefits users by providing them with the support, upgrades, and fast, efficient help when required. Local first level technical support is provided by experienced professionals with years of industry experience, who assist all levels of users. Users on maintenance get access to the Tekla User Account. This includes online help, an experienced and helpful online user community, the Tekla Warehouse and access to the latest software releases.

Cadex SA, Tekla's regional reseller, brings more than 60 years of experience in the Southern African steel construction industry to their clients.

Visit www.tekla.com for details about more configurations and tools.

Contact: John Swallow or John Duncan Telephone: +27 11 463 1857/3641 Fax: +27 11 463 9445 Email: info@cadexsa.com

Web: www.cadexsa.com Postal Address: PO Box 411340, Craighall, 2024, South Africa

Physical Address: First Floor, Block D. Coachmans Crossing Office Park, 4 Brian Street, Lymp Park, 2191, Bryanston, Sandton

# STEEL AWARDS PHOTO COMPETITION REACHES OVER 1 700 PEOPLE WITH ITS FIRST EVER "INSTAGRAM PHOTO COMPETITION"

One of the objectives of Steel Awards is to spread the news far and wide about the great work our industry produces. For the first time ever, thanks to the support of our Photo Competition sponsors CADEX Systems SA – we've taken the bold step of engaging with new markets through Instagram. Where previously the photo competition was judged by a panel of 5-8 people, Instagram allows for reaching a much wider audience.

This year, photo competition entries made their way into the social feeds of over 1 700 people! All of this year's Steel Awards nominated projects were shared via the @steelawards Instagram account and the most liked images received between 50 and 70 likes! The finalists and winning photos were determined by the number of likes received – which was a clear indication of the visual appeal of the image to a global audience.

For those of you who are perhaps not that familiar with the Instagram platform, here are a few quick facts:

- Instagram is a photo and short video sharing social app for your smartphone
- Images and photos often have hashtags (e.g -#SteelAwards2018, #SteelConstruction, #Steel or #StructuralEngineering) to make it easier for users to search for content they are interested in
- Over 3.8 million South Africans are on Instagram
- It provides real time opportunities for sharing project and business progress. People love to see well composed and

interesting photographs that tell a story! It's a great way to showcase your work, and let clients (current and potential) see what you are capable of as a business.

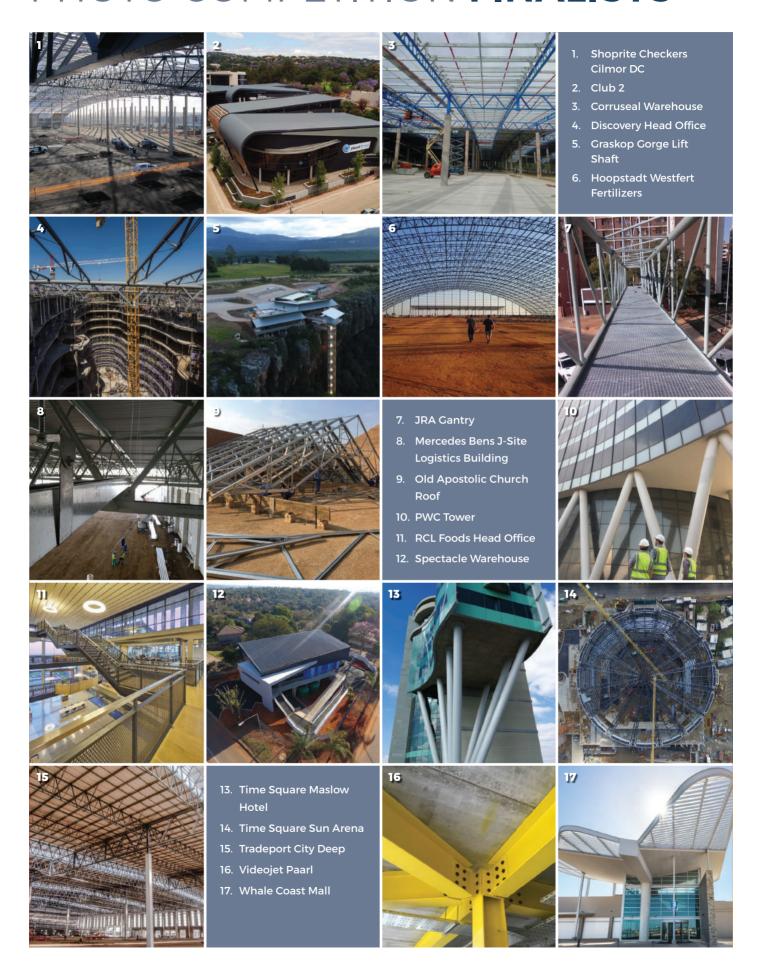
As a very visual platform, Instagram is a firm favourite with Photographers and Architects. The SAISC is very excited about the opportunities Instagram presents, and will be running some more training courses in 2019 to assist our members to utilise the platform. Don't forget to follow @saisc\_steel and of course @steelawards on Instagram if you haven't already done so.

#### **HOW DO I CREATE AN INSTAGRAM ACCOUNT?**

To create an Instagram account from the app:

- Download the Instagram app from the App Store (iOS) or Google Play Store (Android).
- 2. Once the app is installed, tap to open it.
- Tap Sign Up With Email or Phone Number, then enter your email address or phone number (which will require a confirmation code) and tap Next. You can also tap Log in with Facebook to sign up with your Facebook account.
- 4. If you register with your email or phone number, create a username and password, fill out your profile info and then tap **Done**. If you register with Facebook, you'll be prompted to log into your Facebook account if you're currently logged out.

# PHOTO COMPETITION FINALISTS





Bob (35) knows the most efficient way to design, detail, and fabricate a steel structure. His company uses Tekla to automate detailing, fabrication and project management through interfacing with MIS systems and CNC machinery. What's more important, sharing the Tekla model allows all the project team members to stay in the building information loop real-time.

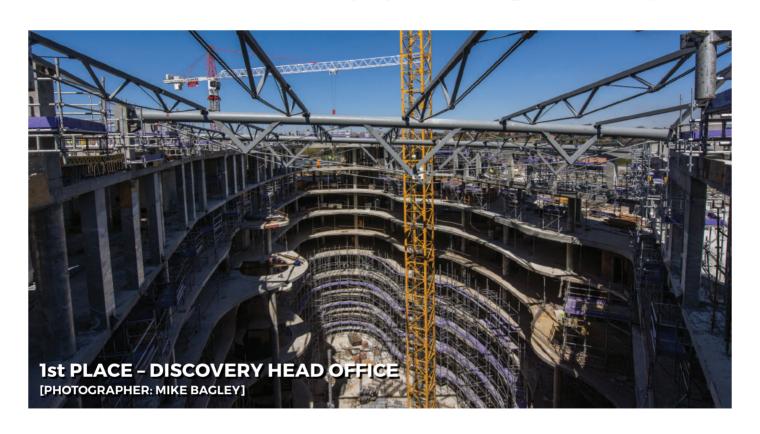
Tekla BIM (Building Information Modeling) software solutions provide a data-rich 3D environment that can be shared by contractors, structural engineers, architects, steel detailers and fabricators, and concrete detailers and manufacturers. Choose Tekla for the highest level of detail, accuracy, constructability and integration in project management and delivery. Visit our website to learn more about Tekla solutions and references.

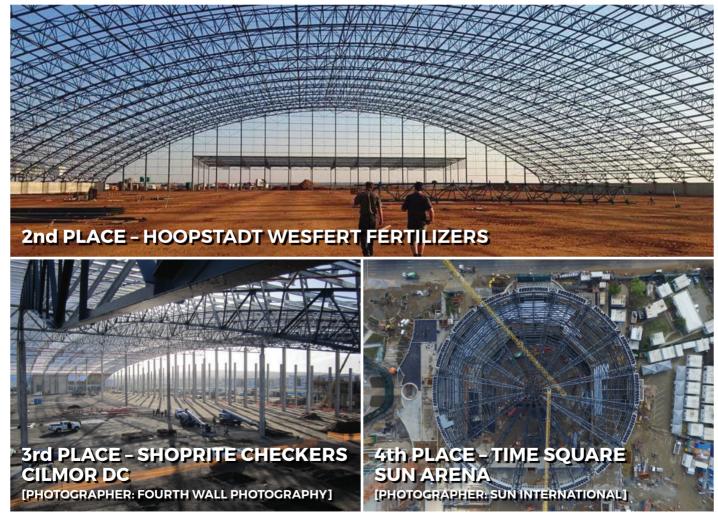
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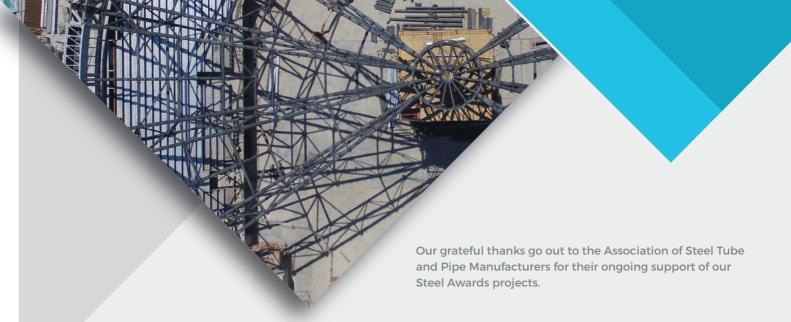
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# PHOTO COMPETITION WINNERS







ASTPM TUBULAR CATEGORY

# WINNER



#### AND STEEL AWARD 2018 OVERALL WINNER

## TIME SQUARE SUN ARENA



https://www.saisc.co.za/project/sun-international-times-square-main-arena/

## THE ASSOCIATION OF STEEL TUBE AND PIPE MANUFACTURERS OF SOUTH AFRICA

The Association of Steel Tube and Pipe Manufacturers of South Africa (ASTPM) was formed in 1983 to represent the welded carbon steel tube and pipe producers. The members account for over 70% of the installed capacity. Details, product range and all other relevant information are available on our website, www.astpm.com

During the 32 years existence of the Association, the members have loyally supported the local market and have also exported in excess of 1.5 million tons of tube and pipe to over 50 countries. This has only been achieved due to the top quality product that these members produce which is in compliance with both local and international specifications.

The Association continues to promote the use of tube and is active in ensuring that local standards are maintained and where necessary, improved, to meet local and international requirements.

The introduction of the standard Grade S355 Structural Tubing (launched in 2010) now provides a lighter and stronger steel solution to the structural steel industry and compliments the inherent benefit of tubular steel. Its success is proven by ever growing sales in S355 tube.

Our members continue to invest in this industry and are expanding in value added machinery that includes plasma and laser cutting technology. These products are now more user-friendly especially with the connections that save time and labour costs for the fabricators and erectors, enabling them to pass the savings on to their customers.

The ASTPM is pleased to be able to continue their sponsorship of this worthy award, both now and into the future, and wishes the SAISC every success for this flagship event.

Contact: Tiana Ferreira Telephone: +27 11 726 6111 Email: info@saisc.co.za Website: www.saisc.co.za

#### TIME SQUARE MASLOW HOTEL

The sloping tree columns of the Time Square Maslow Hotel could only be done in steelwork, with infill concrete and re-bar to make this work as a composite structure. Supporting the tree columns from the base upwards was the main challenge. Once the core deck fell into place at the top of the tree columns, the structure worked in harmony.



https://www.saisc.co.za/project/time-square-maslow-hotel/

#### **PROJECT TEAM**

Nominator - Cadcon (Pty) Ltd | Client/Developer - Sun International | Architect - LYT Architects
Structural Engineer - WSP | Engineer - WSP | Quantity Surveyor - MLC | Main Contractor - WBHO
Steelwork Contractor - Cadcon (Pty) Ltd | Steel Erector - On Par | Cladding Contractor - Chartwell Roofing
Corrosion Protection (paintwork contractor) - Dram Industrial
Photographer (photo competition) - Sun International

#### **DURBAN GIRLS NEW FACILITY CENTRE**

An aesthetic decision was made in the Durban Girls New Facility Centre project to express the dynamics of a steel clear span structure, integrated with the translucent sheeting panels of the gable frames and south light.

The roof trusses feature tubular sections with profiled gussets framing into H section top rafters. The purlins are standard cold rolled lipped channel sections.



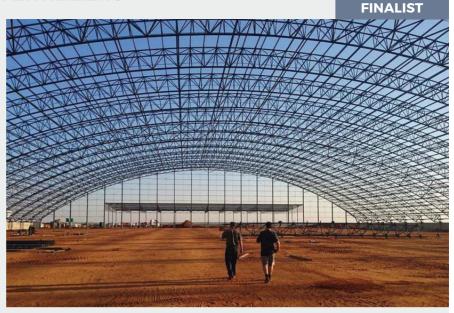
https://www.saisc.co.za/project/new-facilities-centre-for-durban-girls-high-school/

#### **PROJECT TEAM**

Nominator - Young and Satharia I Client/Developer - DBN Girls High School Governing Body
Architect - Neil Hayes-Hill Architect I Structural Engineer - Young and Satharia
Quantity Surveyor - Edgecomb & Hayes-Hill I Main Contractor - Nichol Projects (Pty) Ltd
Steelwork Contractor - Ogilvie Engineering (Pty) Ltd I Cladding Manufacturer & Supplier - Safrinta
Cladding Contractor - Four Seasons Roofing (Pty) Ltd

#### **HOOPSTADT WESTFERT FERTILIZERS**

There are no supporting pillars within the Hoopstadt Westfert Fertilizers structure, which creates enough space for two Airbus 380s to fit inside the building. A triangular pipe frame structure was used for the trusses. A single 194mm diameter bottom cord tube and two 140mm diameter tubes were used as top sections. The bracing is 76mm tube and all the sections are 3mm thick



https://www.saisc.co.za/project/hoopstad-westfert-fertilizers/

#### **PROJECT TEAM**

Nominator - Global Roofing Solutions | Client/Developer - West Fertilizers

Structural Engineer & Project Manager - Alliance Con Systems | Main Contractor - Alliance Conveying System

Steelwork Contractor & Steel Erector - Vic Engineering | Cladding Manufacturer - Global Roofing Solutions

Cladding Supplier - Global Roofing Solutions | Cladding Contractor - Alliance Conveying Systems



#### Members

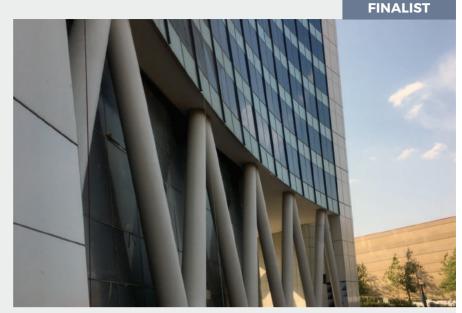
ArcelorMittal SA I ArcelorMittal SA Seamless Tube Division I Augusta Steel I Aveng Trident Steel I Barnes Tubing Industries
Group Five Pipe I Hall Longmore I Honingcraft I Macsteel Tube & Pipe I New Concept Mining I Pro Roof Sheeting

Tel: +27 11 726 6111 Email: astpm@astpm.com Website: www.astpm.com / www.steasa.com

#### **PWC TOWER**

Within the atrium and outside the glass façade of the PWC Tower the sloping and spiralling columns of the building are encased in steel tubes to act compositely with the concrete inside. This increases the capacity of the reinforced concrete columns where they are unrestrained over the three floors, and means that the overall section sizes can be similar to the rest of the tower

All of these components feature the use of steelwork in a complex geometric form, and in the majority of cases, the painted steel is exposed to form the finished surface.



https://www.saisc.co.za/project/pwc-tower-triple-height-lobby/

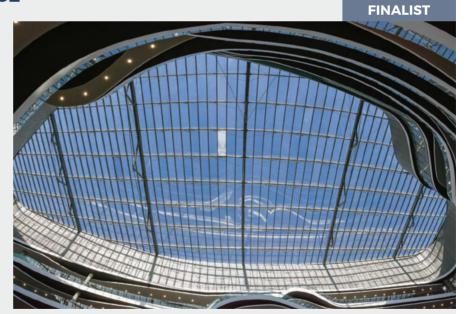
#### **PROJECT TEAM**

Nominator - Arup | Client - Attacq | Developer - Atterbury | Architect - LYT Architecture | Structural Engineer - Arup | Quantity Surveyor - Brian Heineberg & Associates | Main Contractor - WBHO | Steelwork Contractor - Cadcon (Pty) Ltd | Steel Erector - Cadcon (Pty) Ltd | Cladding Manufacturer - Geustyn & Horak (G&H Aluminium) | Cladding Supplier - Geustyn & Horak (G&H Aluminium) | Cladding Contractor - Geustyn & Horak (G&H Aluminium)

#### **DISCOVERY HEAD OFFICE**

The skylight roofs of the Discovery Head Office encompass an innovative design concept allowing them to convey a minimal structural expression of openness. The fabrication of the steelwork presented some challenges, particularly with respect to the main support trusses which are of tubular construction with high tensile KINEX Bar bottom chord members.

The main challenge was in the design of the truss intersections which involved many hours with the design engineers as well as careful component fabrication and fit-up in the workshop to achieve the required result.



 $https:/\!/www.saisc.co.za/project/discovery-head-office/\\$ 

#### **PROJECT TEAM**

Nominator - TASS Engineering and Spiral Engineering cc | Client/Developer - Growthpoint / Zenprop JV

Architect - Boogertman & Partners | Structural Engineer (skylight) - Pure Consulting

Structural Engineer (main building) - Sotiralis Consulting Engineers | Quantity Surveyor - RLB Pentad Q.S.

Project Manager - Morta Project Managers | Main Contractor - Tiber / WBHO JV | Steelwork Erector - On Par Steelwork

Erection Steelwork Contractors - TASS Engineering, Spiral Engineering and Nancy Engineering

Corrosion Protection (paintwork contractor) - Dram Industrial Painters | Photographer (photo competition) - Megapix Digital

#### MAKRO RIVERSANDS

The main roof structure for Makro Riversands consists of girders and castellated rafters. Castellated beams were used for aesthetics and to reduce the overall weight of the sections along the span. Circular Hollow Sections were used in the barrel vaults as an architectural feature.



https://www.saisc.co.za/project/makro-riversands/

#### **PROJECT TEAM**

Nominator - MPW Steel Construction | Client/Developer - Makro / Century Properties | Architect - R&L Architects Structural Engineer - L&S Consulting | Project Manager - MPW Steel Construction | Main Contractor - Concor Steelwork Contractor - MPW Steel Construction | Steel Erector - MPW Steel Construction Cladding Manufacturer & Supplier - Global Roofing Solutions | Cladding Contractor - Roofing Guarantee Photographer (photo competition) - MPW Steel Construction

#### JRA GANTRY

All the connections on the Circular Hollow Sections for the JRA Gantry had to be profiled, and the girder section had to be pre-cambered. Fabrication had to allow for safe transportation, as the sections were abnormal loads delivered in the Johannesburg CBD.

Assembly of the bridge had to be carried out in an allocated area in close proximity to the site, in order to minimise road closure time. Once the main gantry was assembled it was moved into place with a truck and dolly, and the erection began in the allocated 1 day road closure.

# FINALIST

https://www.saisc.co.za/project/jra-gantry/

#### **PROJECT TEAM**

Nominator - MPW Steel Construction | Client/Developer - Johannesburg Road Agency | Structural Engineer - JG Afrika

Main Contractor - MPW Steel Construction | Steelwork Contractor - MPW Steel Construction

Steel Erector - MPW Steel Construction | Photographer (photo competition) - MPW Steel Construction

#### RCL FOODS HEAD OFFICE

The functional and visual focus of the RCL Foods atrium is the cascading staircase which extends from the entrance area to the uppermost floor and connects all levels. This is created from a single 450mm diameter tubular section which almost impossibly spans up to 13m between bridges which connect the floors on either side of the atrium. This stair displays cantilevered treads and is carefully crafted to connect to the bridges comprising universal beams and other sections to produce visually light elements in the space.



https://www.saisc.co.za/project/rcl-foods-head-office-westville/

#### **PROJECT TEAM**

Nominator - EPA | Client/Developer - JT Ross | Architect - EPA | Structural Engineer - BPH Engineers

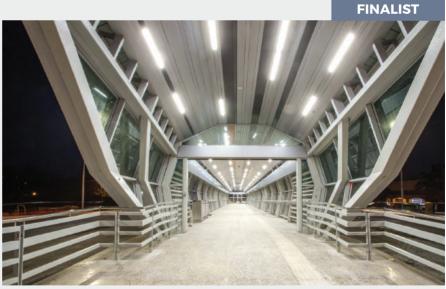
Quantity Surveyor - MLC Quantity Surveyors | Main Contractor - JT Ross | Steelwork Contractor - Rebcon Engineering

Steel Erector - Rebcon Engineering | Cladding Manufacturer - HB Interiors | Cladding Supplier - HB Interiors

Cladding Contractor - HB Interiors

#### GO DURBAN INTEGRATED RAPID PUBLIC TRANSPORT NETWORK

Square Hollow Tubing was used on most structural members for the Go Durban Integrated Rapid Public Transport Network project, due to its light weight and excellent structural strength properties. Custom made hollow tubes had to be manufactured for the front and exit canopy legs, for aesthetic requirements.



https://www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/www.saisc.co.za/project/go-durban-irp

#### **PROJECT TEAM**

Nominator, Steelwork Contractor & Steel Erector - Shesha Engineering | Client/Developer - Durban Municipality
Architect - ETA | Structural Engineer - ARQ Structures | Quantity Surveyor - Cardwell and Wonfer | Project Manager - WBHO
Main Contractor - Phayindani J.V. | Cladding Manufacturer & Contractor - HB Interiors, MJ Cheater Roofing Solutions & AGS Glass Fibre
Cladding Supplier - Hunter Douglas, City Glass & Global Roofing Solutions | Corrosion Protection (galvanizing) - Pinetown Galvanising
Corrosion Protection (paintwork contractor) - Scott Clean | Photographer (photo competition) - Lisa Woest Photography
Photographer (other submitted images) - Qanza Construction | Photographer (other submitted images) - Qanza Construction



# GRS METAL CLADDING CATEGORY

# WINNER

AND SAFINTRA FACTORY & WAREHOUSE CATEGORY WINNER

# SHOPRITE CHECKERS CILMOR DISTRIBUTION CENTRE



 $https:/\!/www.saisc.co.za/project/shoprite-climor-distribution-centre/\\$ 

#### Brownbuilt | HH Robertson

## GLOBAL ROOFING SOLUTIONS - METAL CLADDING CATEGORY

Global Roofing Solutions (GRS) is the leading South African metal roofing manufacturing company, comprising two entities, Brownbuilt and HH Robertson, both with track records that extend over six decades.

In 1977, GRS introduced the first mobile rolling mills in SA and today the company continues to lead the field in the mobile mill arena. GRS' mobile mills are the most sophisticated of their kind in Southern Africa, This was followed in 1999 by a world record when it rolled a 136m long single sheet of its Klip-Lok 406™ profile. Innovation milestones have continued: the company holds several patents, including the now generically-known 'inverted rib box' (IBR) profile, and was the first manufacturer to offer the unique embossing feature on its sheeting. 2017 saw the introduction of Africa's first dual mobile mills. These mobile mills boost two of South Africa's most trusted and awarded concealed profiles, Klip-Tite and Klip-Lok 700.

GRS' sustained success is based on it proven product range, combined with a service commitment to deliver the exceptional. Quality products, including leading brands Klip-Tite™; Klip-Lok 700™; Brownbuilt™; Zip-Tek and Nu-Rib 762, are supplied for projects ranging from low-cost housing through to multimillion rand shopping centre developments. GRS also manufactures composite steel floor decking (permanent shuttering) profiles, Bond-Dek, Bond-Lok and QC Flooring as well as metal roof tiles.

GRS' expanding footprint includes fully equipped manufacturing operations in major centres across South Africa, along with established facilities in five other African countries.

With the success over the last 5 years at the Steel Awards, Klip-Tite has proven its superior properties over similar concealed fixed profiles replicated in the industry. Winning numerous prestigious awards in all Steel Award Categories. This was made possible by the design professional teams that worked at delivering the exceptional to their client.

This positions GRS as the ideal roofing solutions partner on all major commercial building, entertainment and residential projects in Sub Saharan Africa.

Contact: Shayne Lessing Telephone: +27 11 898 2900 Fax: +27 11 892 1455 Website: www.globalroofs.co.za Physical Address: Corner Barlow & Quality, Isando, Johannesburg, 1600

Thanks go out to Dennis White, Director of SAMCRA (the South African Metal Cladding and Roofing Association) and Global Roofing Solutions (a founding member of SAMCRA, and sponsor of this category) for their continued support.

The *Shoprite Cilmor Distribution Park* is the latest installation of the national distribution centre rollout for the owner/operator client, *Shoprite Checkers*. The project comprises more than 20 buildings, the largest of which are 3 warehouses serving as the core of the development. The biggest is the 76 000m² Dry Goods warehouse, followed by the 18 000m² Refrigerated Building and the 12 000m² Returns Centre.

The architectural brief was to deliver purpose-fit infrastructure that is aesthetically pleasing, given the facility's prominence from the adjacent freeway and surrounding neighbourhoods, while also maximising the value of the client's investment. The architectural and structural teams collaborated closely to allow function to define form, yet ensure refined aesthetics and a wow-factor to the overall appearance.

Structural steel was the natural choice to realise the large open span roof structures and curved architectural features. The operational design required a 32 x 32m internal grid for the ambient warehouses and 24 x 24m for the refrigerated warehouse. No construction material other than structural steel could achieve the same construction economics for these light-weight, large-span roof structures under the given programme constraints.

The design of the buildings and the subsequent construction methodology were all centred around safe and fast erection on site, delivering a light structure. The buildings are stabilized by large cantilevering concrete tiltup columns that were constructed during the fabrication period of the steel. The largest of these columns was 24.3m tall, weighing more than 44 tons. Starting off with a stable structure greatly reduced the risk during the erection of the long-span structural steel girders and trusses.

The girders were built-up from horizontally orientated UB chords laced with double equal angle web members. This configuration allowed optimized utilisation of the material and produced a girder that was easier to handle on site due to the lateral and torsional stiffness of the box-shaped assembly. The trusses for the ambient warehouses were classic lattices made from equal angle chords and web members. To provide a flat fixing surface for the refrigeration panels, the trusses for the refrigerated buildings were also boxed lattices with channels as chords.

The connection design and detailing, especially for the girder-to-column and truss-to-girder nodes, also aimed at a reduction of risk during the erection process. All major connections are first seated and secured, after which the main structural bolts or plates are fastened. This greatly reduced handling of heavy bolts and plates while girders or trusses were suspended from cranes.

The appointed specialist steel contractor, *Mazor Steel*, delivered 2 963 tons of structural steel on time and to highest quality standards following a strict safety plan under constant scrutiny by main contractor, *Stefanutti Stocks*, who achieved over one million lost-time injury free man-hours on this project.



#### **PROJECT TEAM**

Nominator - WSP Group Africa (Pty) Ltd | Client/Developer - Shoprite Checkers Properties

Architect - Steyn le Roux Truter | Structural Engineer & Engineer - WSP Group Africa (Pty) Ltd | Quantity Surveyor - iQS

Project Manager - SiVEST | Main Contractor - Stefanutti Stocks | Steelwork Contractor & Steel Erector - Mazor Steel

Cladding Manufacturer - Global Roofing Solutions | Cladding Supplier - Safal Steel

Cladding Contractor - Scheltema | Corrosion Protection (galvanizing) - Advanced Galvanising (Pty) Ltd

Corrosion Protection (paintwork contractor) - Nu Nation Protective Coatings

Photographer (photo competition) - WSP Group Africa (Pty) Ltd

Photographer (aerial photographs) - Subiaco Photography





#### Download our brochures

www.globalroofs.co.za Tel: 011 898 2900 Email: marketing@globalroofs.co.za Klip-Tite™

The multi award-winning Klip-Tite™ profile has been an intricate part in the success factor of many buildings decorating the South Africa sky-line. Companies like Cell C, Cummins Africa, Hirt and Carter and Amrod™ preferred Klip-Tite™ to cover their assets. With design traits similar to the popular Klip-Lok 700™, the Klip-Tite™ profile introduced transverse stiffeners, in lieu of the traditional longitudinal pan stiffeners, forming structural members spanning across the width of the pan. The deflection of the pan is thus reduced, increasing the wind uplift resistance of the sheet. These transverse pan stiffeners are a first in the South African sheeting market. Site-rolling is also available.

The KL 700 Plus Clip

The new KL 700 Plus clip has improved mechanical grip due to the re-development of the connector spur. This clip has also improved wind loading capabilities. Newly designed and more pronounced stiffeners have improved the rigidity in key areas.





The size of the building and the resulting rainwater run-off lengths of the Dry Goods building supported the choice of a curved roof structure for these buildings. As a result of the curve, the roof angle increases with increasing run-off length, thus improving run-off performance of the roof. A jointless sheet transition from -0.5° to 0.5° was incorporated at the apex of the roof in order to avoid a large flat zone. Typical step laps were detailed to facilitate watertight installation and minimise the effects of temperature strain with the first sheeting laps occurring at slopes of more than 2°.

In order to ensure transparency of the sheeting tender, all tenderers were required to submit test compliance data as an entry criterion to the bidding process. This data was to be derived using the methods of the draft cladding code, *SANS10237*, which is in development by the *South African Metal Cladding and Roofing Association*.

*Scheltema* won the sheeting tender with *GRS KLIP-TITE* as the product of choice, rolled from *Safal* Colorplus Matte AZ150. Similar to the structural steel erection, the contractor deployed safe erection methods far above industry standard while tight collaboration between *Safal*, *GRS* and *Scheltema* ensured a high quality installation with an uncompromised guarantee for the client.

The project was completed on time and within budget while impressing with outstanding design and way-leading quality of works.

Tons of structural steel used: ± 2 963 tons

Structural profiles used: UB, UC, C, EA, CFLC, CHS, SHS, RHS

Cladding profile/type used: GRS KLIP-TITE™ roof sheeting, IBR side cladding Cladding area/coverage: 118,140m² roof surfaces, 19,914m² side cladding

Cladding tonnage: ±787 tons

#### CLUB 2

The roof cladding specified for WO was Klip-Tite by Global Roofing Solutions. The cladding was cranked around the curves of the portal frames and finished with a custom made flashing to achieve the required aesthetic.



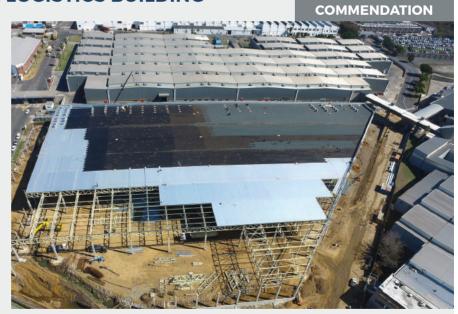
https://www.saisc.co.za/project/club-2/

#### **PROJECT TEAM**

Nominator - Global Roofing Solutions | Client/Developer - Atterbury | Architect - Hoffman Architects Structural Engineer - DG Consulting | Main Contractor - WBHO | Steelwork Contractor - LTS Steelwork | Cladding Manufacturer - Global Roofing Solutions Cladding Supplier - Global Roofing Solutions | Cladding Contractor - Cladco

#### MERCEDES BENZ J-SITE LOGISTICS BUILDING

A unique aspect of the Mercedes Benz J-Site project is that the Saflok 700 is fixed to the purlins in the inverted position. The board is fixed to 0.8mm thick Safintra Saflok 700 steel cladding with an AZ 150 coating. The non-standard 0.8mm steel Saflok cladding was load tested at the Safintra premises in Pinetown.



https://www.saisc.co.za/project/mercedes-benz-j-site-logistics-building/

#### **PROJECT TEAM**

Nominator - AECOM | Client/Developer - Mercedes-Benz South Africa | Architect - AECOM Structural Engineer - AECOM | Quantity Surveyor - Stefanutti Stocks | Project Manager - AECOM Steelwork Contractor - Impact Engineering | Cladding Manufacturer - Safintra | Cladding Supplier - Safintra Cladding Contractor - Impact Engineering | Corrosion Protection (paintwork contractor) - Insimbi Coatings

#### GIBELA TRAIN STATION

Over 300 tons of cladding was supplied to clad the 55 000m² Gibela Train Station. Global Roofing Solutions' Klip-Tite was specified for the project, which involved large areas of long lengths of cladding to enabling the design team to achieve the desired results. The cladding was rolled on site from 0.55mm Colorplus material produced locally by Safal Steel.



https://www.saisc.co.za/project/gibela-train-station-cladding/

#### **PROJECT TEAM**

Nominator - Global Roofing Solutions | Client/Developer - Gibela Rail Transport | Architect - Aecom

Structural Engineer - Aecom | Engineer - BKS Engineering | Quantity Surveyor - Aecom | Project Manager - Aecom

Main Contractor - Trencon Construction | Steelwork Contractor - Louwill Lefa

Steel Erector - Churchyard & Umpleby | Cladding Manufacturer - Global Roofing Solutions

Cladding Supplier - Global Roofing Solutions | Cladding Contractor - Chartwell Roofing

#### HOOPSTADT WESTFERT FERTILIZERS

Hoopstadt Westfert Fertilizers is the fourth largest structure of its kind in the world, able to house some 200 000 tons of fertilizer. The building has a clear span of 116m. Global Roofing Solutions supplied approximately 27 000m² of 127m long site rolled Klip-Tite roof cladding plus NuRib side cladding for this project.



https://www.saisc.co.za/project/hoopstad-westfert-fertilizers/

#### **PROJECT TEAM**

Nominator - Global Roofing Solutions I Client/Developer - West Fertilizers I Structural Engineer - Alliance Con Systems
Project Manager - Alliance Con Systems I Main Contractor - Alliance Conveying Systems
Steelwork Contractor - Vic Engineering I Steel Erector - Vic Engineering
Cladding Manufacturer - Global Roofing Solutions I Cladding Supplier - Global Roofing Solutions
Cladding Contractor - Alliance Conveying Systems

#### WOODLANDS DAIRY

The brief for Woodlands Dairy was to design a warehouse of 18 000m² which would be sufficiently sealed to eliminate any dust ingress and accommodate a pallet racking system. The site's irregular shape and contour meant the layout of the warehouse changed angle and level. This all made for some challenging structural junctions and sheeting interfaces.



https://www.saisc.co.za/project/woodlands-dairy-uht-warehouse/

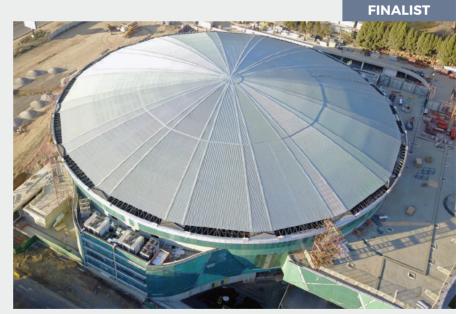
#### **PROJECT TEAM**

Nominator - Safintra I Client/Developer - Woodlands Dairy I Architect & Project Manager - MMK Architects
Structural Engineer - Sigma Consulting I Main Contractor - WBHO Construction

Steelwork Contractor & Erector - USS (Uitenhage Super Steel) I Cladding Manufacturer & Supplier - Safintra
Cladding Contractor - Cladall I Corrosion Protection (coating) - PPG Protective & Marine Coatings
Corrosion Protection (paintwork contractor) - USS (Uitenhage Super Steel)
Photographer (photo competition& other submitted images - Impact Studio

#### TIME SQUARE SUN ARENA

The design team for Time Square Sun Arena had to create an acoustic sandwich out of the cladding to insulate the performance arena from traffic and weather noise plus preventing interference from events in the arena to neighbouring facilities. Global Roofing Solutions supplied 13 000m² of Klip-Tite cladding for this project.



https://www.saisc.co.za/project/sun-international-times-square-main-arena/

#### **PROJECT TEAM**

Nominator & Steelwork Contractor - Cadcon (Pty) Ltd | Client/Developer - Sun International

Architect - LYT Architects | Structural Engineer - WSP | Main Contractor - WBHO | Steel Erector - On Par

Cladding Manufacturer & Supplier - Global Roofing Solutions | Cladding Contractor - Chartwell Roofing

Corrosion Protection (paintwork contractor) - Dram Industrial Painting Contractors

Photographer (photo competition) - Sun International

#### WHALECOAST MALL

The architectural brief for Whalecoast Mall was that the aesthetic of the centre should complement the area and not detract from the natural beauty of the surrounding environment. Safintra's Saflok 700 profile, roll formed from 0.53mm Colorbond Ultra Matt provided the ideal solution.



https://www.saisc.co.za/project/whalecoast-mall/

#### **PROJECT TEAM**

Nominator - Safintra | Architect - JL Design & Bentel Associates International

Client/Developer - Whale Coast Village Mall (Pty) Ltd, HCI Propcom (Pty) Ltd, Sandbaai Development Trust & Shoprite Checkers

Structural Engineer - Bigen Africa Services (Pty) Ltd | Quantity Surveyor - MLC Quantity Surveyors

Project Manager - MDSA Project Management | Main Contractor - Isipani Construction

Steelwork Contractor & Steel Erector - Mazor | Cladding Manufacturer & Supplier - Safintra Roofing

Cladding Contractor - Cladco Projects | Photographer (photo competition) - Fourth Wall Photography

#### WOOLWORTHS DISTRIBUTION CENTRE - COMMUNICATIONS PARK

The Woolworths Distribution Centre - Communications Park project has 7 653m² of IBR vertical cladding. The IBR sheeting was roll formed from Colourplus material on an AZ 200 sub-strate and fixed broad flute out. The upper 1100mm of the vertical cladding is a continuous band of polycarbonate cladding which tucks behind a large structural gutter.



https://www.saisc.co.za/project/woolworths-dc-communications-park/

#### **PROJECT TEAM**

Nominator - Safintra | Client/Developer - Woolworths (Pty) Ltd | Architect - R&L Architects (Pty) Ltd | Structural Engineer & Engineer - Aurecon Engineers | Quantity Surveyor - iQS Quantity Surveyors |
Project Manager - MDSA Project Managment | Main Contractor - Stefanutti Stocks | Steelwork Contractor - Mazor Steel | Cladding Manufacturer - Safintra | Cladding Supplier - Chartwell Roofing | Cladding Contractor - Chartwell Roofing | Photographer (photo competition) - Fourth Wall Photography

#### BMW PAINT SHOP RE-ROOF

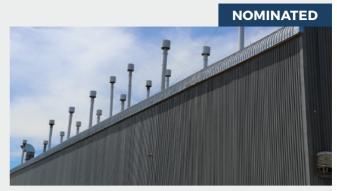
Nominator - Safintra Client/Developer - BMW

Structural Engineer - Nyaletti Structural & Engineers Pretoria

Main Contractor - MRC Group Cladding Manufacturer - Safintra Cladding Supplier - Safintra

Cladding Contractor - MRC Group

Photographer (photo competition) - Sublime Film



https://www.saisc.co.za/project/bmw-paint-shop-re-roof/

#### **EMPOWERED SPACES**

Nominator - Global Roofing Solutions

Client/Developer - Empowered Spaces

**Architect** - Empowered Spaces

Structural Engineer - IBP Construction Consultants

**Quantity Surveyor - IBP & Empowered Spaces** 

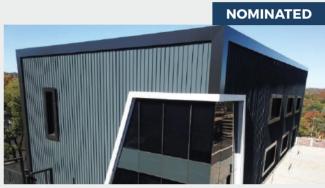
Main Contractor - Bantry Construction

Steelwork Contractor - SE Steel

**Cladding Manufacturer** - Global Roofing Solutions

**Cladding Supplier** - Global Roofing Solutions

**Cladding Contractor** - Pinnacle



https://www.saisc.co.za/project/empowered-spaces/

#### **HINO WESTMEAD**

Nominator - Safintra

Client/Developer - Mccarthy Limited

Architect - Dimension Studio

Structural Engineer - Kantley & Templer

Engineer - Kantley & Templer

Quantity Surveyor - Quanticost

Project Manager - Dimension Studio

Main Contractor - Norvo Construction

**Cladding Manufacturer** - Four Seasons

Photographer (photo competition) - Kierran Allen Photography

# **NOMINATED**



https://www.saisc.co.za/project/hino-westmead/

#### **MOMSENS BIKES**

Nominator - Safintra

Client/Developer - Gary Erasmus Trust

Architect & Project Manager - Dmv Architecture

Structural Engineer & Engineer - Poise Consulting Engineers

Main Contractor - Dave Collins Construction

Steelwork Contractor & Steel Erector - Uitenhage Super Steel

Cladding Manufacturer & Supplier - Safintra

**Cladding Contractor - Ceiling Master** 

Photographer (photo competition & other submitted images -SI Photography

## **NOMINATED**



https://www.saisc.co.za/project/momsens-bikes-two-wheels-trading/

#### GRASKOP GORGE LIFT SHAFT

Nominator - Fourie Consulting Engineers

Client/Developer - JV Graskop Gorge Lift Company/ NEF

Architect & Photographer - Fôrtsch and Associates Architects

Structural Engineer & Engineer - LEW Consulting Engineers (Pty) Ltd

Quantity Surveyor - Siyakha Quantity Surveyors (Pty) Ltd

**Project Manager** - Purlin Consulting

Main Contractor & Photographer - ENZA Construction (Pty) Ltd

Steelwork Contractor & Erector - Quality Steel Construction (Pty) Ltd

**Cladding Manufacturer & Supplier** - Safintra

Cladding Contractor - Roofing Solutions cc

Corrosion Protection (galvanizing) - Babcock Nthuthuko

Powerlines (Pty) Ltd



https://www.saisc.co.za/project/graskop-gorge-lift-structure/

#### ST JOHNS SHOPPING CENTRE

Nominator - Safintra

Client/Developer - Cenprop

Architect & Principal Agent - TC Design Architects

Structural Engineer - Stewart Kerr Engineer

**Quantity Surveyor** - Skyline Projects

Main Contractor - Robertson and Poole

Steelwork Contractor & Steel Erector - Paragon

Cladding Manufacturer & Supplier - Safintra

Cladding Contractor - Brown Deck Roofing

Photographer (photo competition) - Kierran Allen Photography



https://www.saisc.co.za/project/st-johns-shopping-centre/

#### HIRT & CARTER

Client/Developer - Tisco Blackstar

Architect - Elphick Proome

Main Contractor - Stefanutti Stocks

Steelwork Contractor - Avellini Bros

Steel Erector - Impact Engineering

**Cladding Manufacturer** - Global Roofing Solutions

**Cladding Supplier** - Global Roofing Solutions

**Cladding Contractor** - Impact Engineering



https://www.saisc.co.za/project/hirt-and-carter/

#### **RADISSON HOTEL - SILO 6**

Nominator - Global Roofing Solutions

Architect - Peeruting + Design Space Africa

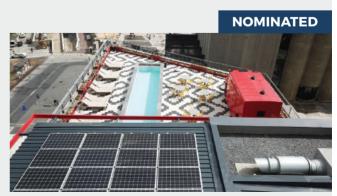
Structural Engineer - Arup South Africa

Quantity Surveyor - MLC Cape Town

**Cladding Manufacturer** - Global Roofing Solutions

**Cladding Supplier** - Global Roofing Solutions

**Cladding Contractor** - Chartwell Roofing



https://www.saisc.co.za/project/radisson-hotel-at-silo-6/

#### **BOSCH WAREHOUSE**

Nominator - Global Roofing Solutions

Client/Developer - Bosch

**Architect** - Empowered Spaces

Structural Engineer - Kantey & Templer Engineers

Quantity Surveyor - IBP Construction

Main Contractor - Bantly Construction

Steelwork Contractor & Steel Erector - Steel Band

Structural Steel Detailer - KRU Detailing

Cladding Manufacturer & Supplier - Global Roofing Solutions

**Cladding Contractor** - Roofline



https://www.saisc.co.za/project/bosch-warehouse/

#### **SA AIRLINK**

Nominator - Global Roofing Solutions

Client/Developer - Comair

Architect - Skylan Architecture and Design Studio

Structural Engineer - P Design cc

**Quantity Surveyor** - Quanticost Quantity Surveyors

Main Contractor - Belo & Kies Construction (Pty) Ltd

Steelwork Contractor - Pretorius Staalwerke

Cladding Manufacturer & Supplier - Global Roofing Solutions

Cladding Contractor - Roofing Guarantee (Cladco completed

this project)



https://www.saisc.co.za/project/sa-airlink/

#### **CAMPUS SQUARE**

Nominator - Global Roofing Solutions

Client/Developer - Key Stone properties

**Architect** - Hammerhead Designs

Structural Engineer - Axiom Engineers

Main Contractor - Gothic Construction

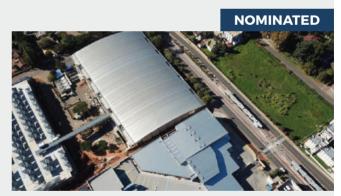
Steelwork Contractor - Nance Engineering

Steel Erector - Nance Engineering

**Cladding Manufacturer** - Global Roofing Solutions

**Cladding Supplier** - Global Roofing Solutions

Cladding Contractor - Chartwell Roofing



 $https:/\!/www.saisc.co.za/project/campus-square/\\$ 

#### **INVICTA**

Nominator - Safintra

Cladding Manufacturer - Four Seasons Roofing

Cladding Supplier - Safintra

**Cladding Contractor** - Safintra

Photographer (photo competition) - Kierran Allen Photography



https://www.saisc.co.za/project/invicta/

#### SOWETO SPORTS CENTRE

Nominator - Safintra

**Architect** - Iyer Architects

Engineer - Archway Projects

Main Contractor - Shomang Construction

Cladding Manufacturer - Safintra

**Cladding Supplier - Safintra** 

**Cladding Contractor - RSS Roofing** 

Photographer (photo competition) - Sublime Film



https://www.saisc.co.za/project/soweto-sports-centre/

#### **LOFTUS PARK**

Nominator - Safintra

Client/Developer - Abland

Architect - Studio 9 International

Project Manager - Redefine Property Group

Main Contractor - WBHO

Steelwork Contractor - Ferro Eleganza

Cladding Contractor - Chartwell Roofing

Photographer (photo competition) - Sublime Film



https://www.saisc.co.za/project/soweto-sports-centre/

# EVERYONE WITH INTEGRITY AND AN INTEREST IN METAL CLADDING NEEDS TO BE A MEMBER OF SAMCRA



Everyone acquainted with construction will agree that the extensive metal roofing industry, which plays such an important role in the environmental performance of buildings, is in urgent need of a make-over. The substitution of specified materials with inferior products, particularly in the emerging sector, has become rife with price prevailing over structural performance and durability. In an attempt to restore credibility in the industry concerned players, from all sectors, formed the **SOUTHERN AFRICAN METAL CLADDING AND ROOFING ASSOCIATION (SAMCRA).** 

#### The Southern African Metal Cladding and Roofing Association (SAMCRA) mission is:

- To create an infrastructure on which an orderly industry can be built including appropriate standards, testing facilities and a base of knowledgeable people.
- To facilitate the fusion of the ambitions of the metal cladding and roofing industry with the requirements of the specifiers and clients to create a successful and respected industry
- To promote the image of the metal roofing and cladding industry and the use of its products

#### Our primary objectives are to:

- Ensure that there are comprehensive, appropriate and widely accepted SANS standards for the metal roof and side cladding as well as tiles
- Participate in the establishment of an accredited testing facility
- Establish a strong knowledge base on all aspects of roof and side cladding including technical literature and knowledgeable individuals
- Campaign to have all metal cladding products sold in South Africa branded with the relevant product information
- Facilitate the training of specifiers, building inspectors and other decision makers with particular focus on artisans
- Implement a programme aimed at the certification of roofing contractors and another to have roofer recognised as a trade

SAMCRA's intent is to include everyone with a stake in the industry – from the producers of coated coil, manufacturers of metal cladding, tiles and associated products, contractors, the professional others with an interest in the subject such as NHBRC and government departments, through to developers, financial institutions and insurance companies.

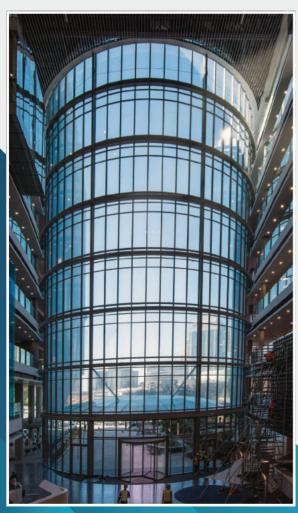
Details on the categories of membership and associated fees are set out in the SAMCRA Membership Categories and Fee Structures document available on www.samcra.co.za. A membership application form and a copy of the Constitution and Code of Conduct are also available here.

IF YOU HAVE ANY FURTHER QUERIES, PLEASE CONTACT DENNIS WHITE - dennis@saisc.co.za or on +27 (0)11 726 6111



## **ARCHITECTURAL CATEGORY** WINNER

### **DISCOVERY HEAD OFFICE**



https://www.saisc.co.za/project/discovery-head-office/

The Steel Awards 2018 Architectural Category showcases examples of the clean lines and unparalleled beauty of steel. Far from being purely utilitarian, steel provides limitless possibilities in terms of bringing an architect's vision to life.

All Steel Awards 2018 projects can also be found on the Steel Awards App and on the SAISC's website: www.saisc.co.za

We encourage you to explore and draw inspiration from the projects on the following pages.

The project entails the development of the new Head Office for Discovery Health in the Sandton Precinct and consists of three towers with glass façades, and large skylight roofs on the two larger towers which required extensive steelwork support for the facades at roof level and between the three towers.

### **Architect's perspective**

There were two key factors within Discovery's brief. First was to create an architectural statement that captured the essence of the Discovery brand, and that it could be identified with going forward. They wanted a building that embodied their core values. The second factor, was to improve efficiencies in the day to day working of the company.

The Discovery building was conceived from the inside out. This concept resolved itself into two large, sun filled internal atria around which the open floor plates were arranged. The atria are enclosed by 2 800m<sup>2</sup> of glazed roof, with all pause areas and agile spaces opening into them. Connecting these atria to one another is a central concourse, within which a stack of escalators links double volume bridges that stitch the floorplates together. The concourse space was conceived as a "grand central station", a literal and figurative interchange between the company and it's clients.

The roof of the building is a landscaped retreat, accessible to all employees, where the philosophy of holistic approach to health, an integral part of the company's core values, is physically expressed.

A key feature of the building is the floating "nose" of the west tower which projects over the Katherine/Rivonia intersection. To make a statement that fitted with the scale of the building, the team needed to cantilever 17.5m over 6 floors. This posed a significant structural challenge that was eventually solved with the introduction of 3 massive concrete beams that project over the length of the cantilever. The floors are then suspended from these beams on steel, concrete filled, columns.

Another challenge was the large atrium roofs. The team wanted these to provide as much light as possible which meant the engineering of a bespoke support solution that was visually unobstructive, but structurally stable. The solution from the façade engineers is an elegant tension truss lattice

that supports both the weight of the glazing as well as resisting the up forces created by the movement of air over the top of the glazed panels.

### Structural perspective

There are a number of separate steelwork structures on the project many of which are worthy of exposure and as such a brief description of the major elements is covered below.

### Skylight roofs

The skylight roofs are probably the most iconic and interesting structures within the development and encompass an extremely innovative design concept allowing them to convey a minimal structural expression of openness.

The major construction challenge presented by the design was the requirement to effectively pre-stress the main and secondary ('so called' glass) trusses post installation to ensure their bottom chords remain in tension under all loading conditions. The pre-stress is achieved by the incorporation of 'so called' light pull-down bars which were then post tensioned on the main support trusses after installation using purpose made tensioning brackets and permanently installed strain gauges to ensure correct tensioning was applied. The 'glass' trusses were post tensioned using a much simpler 'nut turning' method on their pull-down bars.

The bottom chords on the main support trusses plus pull-down bars are all imported high tensile KINEX bars from China with aesthetically pleasing end connection clevises and couplers. The glass trusses utilise normal structural steel round bars throughout.



The fabrication of the steelwork had its own challenges particularly with respect to the main support trusses which are of tubular construction with high tensile KINEX bar bottom chord members. The main challenge here was in the design of the truss intersections which involved many hours with the design engineers and careful component fabrication and fit-up in the workshop to achieve the required result.

### Cantilevered floating 'nose'

The cantilevered floating 'nose' is a stunning architectural feature and an engineering marvel which enables the large cantilevered six storeys to be supported by the massive post-tensioned concrete beams at roof level.

This steelwork needed to be accurately manufactured with beams rolled to seven different radii, seamlessly butt welded together to form the perimeter of the floors which supports the façade which follows the ever changing curvature of the building. The six floors were assembled and supported on five temporary columns at ground level, each floor has five 508mm diameter CHS columns which are concrete filled and hang from three massive post-tensioned concrete beams at roof level. After all the floors had been erected and the top of the CHS columns cast into the concrete beams, the temporary columns at ground level were slowly and methodically cut out while the structure was closely monitored for settlement deflection. This steelwork was on the critical path with a very tight programme. The final result speaks for itself.

### Façade support structure at roof level

The façade support structure requires a  $200 \times 200 \times 4.5$  SHS to follow the three dimensional curvature of the top edge of the buildings, as this member could not be successfully rolled to the required radii with the required finish we opted for a purpose made curved SHS using plates which were laser cut to the required radius and shop welded to form the  $200 \times 200 \times 4.5$ mm curved SHS which is curved in plan and segmented in elevation. The entire structure was erected to tight tolerances required by the façade glazing contractor and finished to the high standard required by the architect.

### Stairs - pergolas - green wall

When asked to write a report upon the above mentioned project, immediate feeling of pride and achievement come to mind. This undoubtedly is one of Spiral Engineering's finest sets of stair ever produced. The project team

### **PROJECT TEAM**

Nominator - TASS Engineering and Spiral Engineering cc | Client/Developer - Growthpoint / Zenprop JV

Architect - Boogertman & Partners | Structural Engineer (skylight) - Pure Consulting

Structural Engineer (main building) - Sotiralis Consulting Engineers | Quantity Surveyor - RLB Pentad Q.S.

Project Manager - Morta Project Managers | Main Contractor - Tiber / WBHO JV | Steelwork Erector - On Par Steelwork

Erection Steelwork Contractors - TASS Engineering, Spiral Engineering and Nancy Engineering

Corrosion Protection (paintwork contractor) - Dram Industrial Painters | Photographer (photo competition) - Megapix Digital

# TASS ENGINEERING

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TASS ENGINEERING has been actively involved in Structural and Architectural Steel Fabrication and Erection for 50 YEARS



From small beginnings in 1968
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leading
Architectural and Structural
Steel Contractors



Tass Engineering - Discovery Head Office - Sandton



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www.tassengineering.com



management and general site feel was on another level of professionalism and hence the success of the project.

Spiral Engineering was set out the task of creating 11 features spiral stairs which created an illusion of stairs which are 'falling' through concrete voids combining glass and plate balustrades. Together with this, we had 4 additional sweep stairs (2 in either atrium) to complete the access to the lower floors. Other works completed were the executive pergola and smokers canopy at roof level, all boasting subtle curves in plan and elevation to the highest quality standards. Added to this was the design supply of the reception green wall spanning over 6 floors creating a magnificent welcome to the Discovery staff and guests.

### Feature spiral stairs (88 tons)

Each one of these stairs were double box stringers 600mm deep which alternated between glass and plate balustrades. The stairs spanned from floor to floor with no intermediate support thus the requirement for full penetration site welding to cast in channel systems to handle the eccentric loads. The handling of these stairs posed challenges in the accuracy and the very strict structural welds were required. Due to program restraints the stairs were hoisted using block and tackle off specially designed structural scaffold systems and were positioned to within very tight tolerance requirements. Full penetration site welding was carried out with every weld preparation and weld inspected and tested by Sotiralis Consulting Engineers. It was a complete team effort from the contractor, sub contractor, engineer, quantity surveyor, architect and project manager to achieve the desired effect. The real challenge was to perfect the flawless smooth white look that the architects were looking to achieve. Special attention was placed on weld preparation as well as high quality welding and dressing thereof. The final product having the sense of multiple floating steel stairs throughout the atriums. This really created the wow factor which you experience when entering these amazing spaces. The stairs were finished off with 16mm laminate full frameless

glass and stainless steel grab rail. The sweep stairs on the lower level also consisted of the same high quality finish. Special attention to the tapering entrances and exits did add to detail during fabrication but the smooth clean look was definitely achieved. The full package was completed on time and a great experience for all parties involved.

### Jakob green wall (1 ton steelwork, 2 400m Jakob Rope, 3750 No Jakob components)

This unmistakable green wall greets you at the entrance of Discovery Sandton. The green wall spans over 6 floors and primarily comprised of grade 316 stainless steel 10mm cables, fittings, climbing ladders all fixed to slimline bracketry spreading the loads and minimizing any further stresses to the already loaded slab edges. The green wall follows the curve of the slab edges and spans in length sections suitable to accommodate a dynamic green wall loads throughout the growth formations. There are curved supporting channels which are staggered between floors which are perfectly set out creating a continuous slim look. This one of a kind green wall did come with its own challenges. Testing of the plant growth as well as a full pre made mock up off site were carried out to ensure the forces, loads and greenery were all covered to ensure the best possible quality for the client. There was no second chance as this installation was scheduled to be installed as a finishing trade, hence the fit first time and mockup requirements were critical to the success of the installation.

### Pergola and canopy (22.5 tons)

Similar to the stair structures these were high class fabrication with subtle curves in plan and elevation assembled and installed on the roof without overhead crane access. The attention to detail by the architect on these structures was exemplary and was cause for much consternation for our finishing teams. There was no shortcut and every curve and detail was thought of by the professional team and placed as much of a challenge as the atrium stairs in that these were not just secondary structures and we were expected to maintain all the quality and fabrication standards as we had done for the stairs.

For the full project profile, technical specifications and project team details, click on the world icon in the Steel Awards App, or visit www.saisc.co.za

Congratulations to the Discovery Head Office project team, winners of the SAISC Steel Awards 2018 Architectural Category!

Completion date of full project: ±November 2017

**Tons of structural steel used:** TASS Engineering – 700 tons / Spiral Engineering – 112 tons /

Nancy Engineering - 500 tons = Total 1 350 tons

**Structural profiles used:** UB/UC, angles, channels, CHS, SHS, RHS, plate and purpose made SHS.



# ARCHITECTURAL STEELWORK AT IT'S BEST

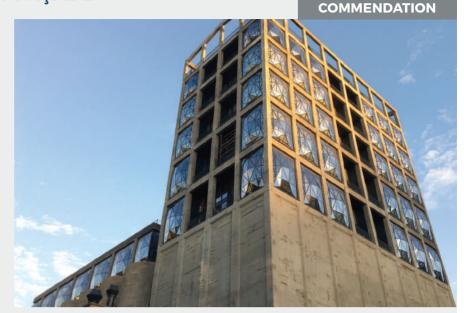
Spiral Engineering is a market leader in the manufacture of architectural decorative steelworks, balustrades and staircases. This has been achieved through innovative manufacturing techniques, dedication and emphasis on detail.



Tel (011) 474 9115/9 Fax (011) 474 6528 Email colin@spiralengineering.co.za www.spiralengineering.co.za

### **V&A GRAIN SILO PILLOW FAÇADE**

The architectural brief for the V&A Grain Silo Pillow Façade was to give new life to the redundant industrial building, repurposing it into something new for the waterfront. Following the studio's suggestion of installing convex windows into the upper storeys of the building, Arup further developed the concept of the pillowed windows.



https://www.saisc.co.za/project/va-grain-silo-complex-facade/

### **PROJECT TEAM**

Nominator - Arup (Pty) Ltd | Client/Developer - V&A Waterfront | Architect - Heatherwick Studio

Structural Engineer for façade steelwork - Arup (Pty) Ltd | Quantity Surveyor - MLC | Project Manager - Mace

Main Contractor - WBHO | Steelwork Contractor & Erector (pillows, zigzag windows) - Mazor

Steel Contractor & Erector (Skylights) - Mazor | Cladding Manufacturer, Supplier & Contractor - Mazor

Photographer (photo competition) - Arup (Pty) Ltd | Photographer (other submitted images) - Arup (Pty) Ltd

### **GATEWAY WEST - MALL OF AFRICA**

The iconic Gateway West - Mall of Africa Building's triple curve-shaped facade was designed as a hybrid steel structure, with the round hollow section frames as the main structural backbone and LSF panelling to provide the cladding base for the Etics system.



https://www.saisc.co.za/project/gateway-west/

### **PROJECT TEAM**

Nominator - Ohlhorst LBS (Pty) Ltd | Client/Developer - Attacq Property Development

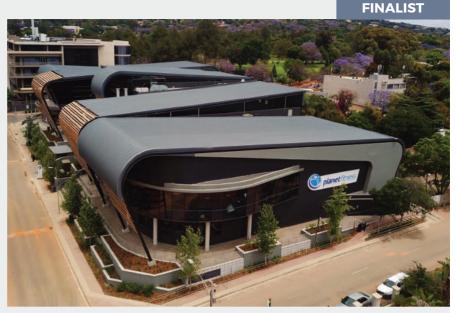
Structural Engineer - HAGE Engineers | Main Contractor - Group 5 | Steelwork Contractor - Ohlhorst LBS (Pty) Ltd

Steel Erector - Ohlhorst LBS (Pty) Ltd | Cladding Manufacturer - Quinton | Cladding Supplier - Quinton

Cladding Contractor - Ohlhorst LBS (Pty) Ltd | Photographer (photo competition) - Ohlhorst LBS (Pty) Ltd

### CLUB 2

Club 2 has curved portals which are particularly unique, innovative and give great aesthetic pleasure. The portals step up and down over box gutters to let natural light into the interior spaces. They also step in and out over the façade to create deep overhangs, creating a shaded public space at the entrance of the building. This design element is what gives the Club 2 its unique appearance.



https://www.saisc.co.za/project/club-2/

### **PROJECT TEAM**

Nominator - Global Roofing Solutions | Client/Developer - Atterbury | Architect - Hoffman Architects Structural Engineer - DG Consulting | Main Contractor - WBHO | Steelwork Contractor - LTS Steelwork | Cladding Manufacturer - Global Roofing Solutions Cladding Supplier - Global Roofing Solutions | Cladding Contractor - Cladco

### **FUTURE AFRICA CAMPUS**

The dining hall of Future Africa
Campus is an eye-catching
combination of wood cladding affixed
to an intricate steel substructure. The
structural framing consists of vertical
and horizontal elements. The vertical
elements are 16mm custom-profiled
laser-cut fins which support horizontal
angles which form a trio of horizontal
bands. Frameless glazing panels are
fixed with aluminium sliding elements
into these bands. The steel framework
creates a sleek look amongst the
glazed elements and creates a feel of
lightness to the structure.



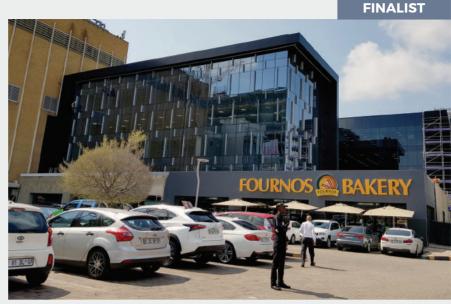
https://www.saisc.co.za/project/future-africa-campus/

### **PROJECT TEAM**

Nominator - TMW Fabrication | Client/Developer - University of Pretoria | Architect - Earthworld Structural Engineer - WSP | Main Contractor - Robenco Construction

### 33 BAKER STREET

The brief to the architect for 33 Baker Street was to convert the existing building into a contemporary landmark. The curtain wall application to an existing concrete structure demanded a steel frame to achieve a modulated façade. The idea was to achieve a simple structure that could be erected within a limited time.



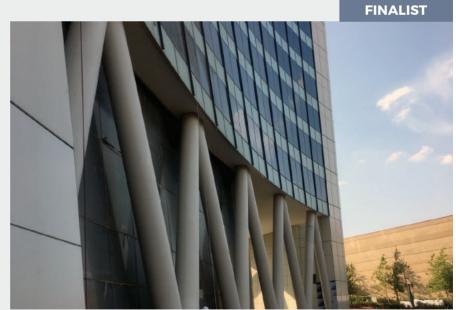
https://www.saisc.co.za/project/33-baker-street/

### **PROJECT TEAM**

Nominator - KRU Detailing cc on behalf of Central Welding Works | Client/Developer - Redefine - Sasol Pension Fund Architect - SVA Architects | Structural Steel Detailer - KRU Detailing cc | Engineer - Sutherland Engineers Quantity Surveyor - Matla | Project Manager - TPM Project Management | Main Contractor - WBHO Steelwork Contractor, Steel Erector & Photographer (other submitted images) - Central Welding Works Cladding Manufacturer, Supplier & Contractor - Hunter Douglas Glass Facades - Diri Glass | Rigging/Cleaning Rails - Gravity Access

### PWC TOWER

The floor plates of the 28-storey PWC Tower rotate by 1.2 degrees per floor. This results in a doubly-curved surface for the building's façade and the structural line behind it. The reception is housed in a triple volume lobby at ground floor level. This space flows into the adjacent meeting centre, and is used as a café and informal meeting space.



https://www.saisc.co.za/project/pwc-tower-triple-height-lobby/

### **PROJECT TEAM**

Nominator - Arup | Client - Attacq | Developer - Atterbury | Architect - LYT Architecture | Structural Engineer - Arup | Quantity Surveyor - Brian Heineberg & Associates | Main Contractor - WBHO | Steelwork Contractor - Cadcon (Pty) Ltd | Cladding Manufacturer - Geustyn & Horak (G&H Aluminium) | Cladding Supplier - Geustyn & Horak (G&H Aluminium) | Cladding Contractor - Geustyn & Horak (G&H Aluminium)

### GO DURBAN INTEGRATED RAPID PUBLIC TRANSPORT NETWORK

The brief to the architect for the Go Durban Integrated Rapid Public Transport Network project was to design and create a visually pleasing structure, which was energy efficient, and ahead of its time. The project showcases a creative way of using steel to produce a homogenous and appealing structure that met the client's brief.



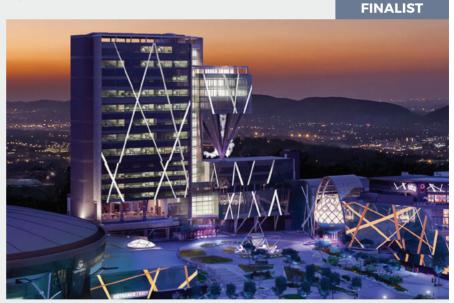
https://www.saisc.co.za/project/go-durban-intergrated-rapid-public-transport-network-irptnbus-stations/

### **PROJECT TEAM**

Nominator, Steelwork Contractor & Steel Erector - Shesha Engineering | Client/Developer - Durban Municipality
Architect - ETA | Structural Engineer - ARQ Structures | Quantity Surveyor - Cardwell and Wonfer | Project Manager - WBHO
Main Contractor - Phayindani J.V. | Cladding Manufacturer & Contractor - HB Interiors, MJ Cheater Roofing Solutions & AGS Glass Fibre
Cladding Supplier - Hunter Douglas, City Glass & Global Roofing Solutions | Corrosion Protection (galvanizing) - Pinetown Galvanising
Corrosion Protection (paintwork contractor) - Scott Clean | Photographer (photo competition) - Lisa Woest Photography
Photographer (other submitted images) - Qanza Construction | Photographer (other submitted images) - Qanza Construction

### TIME SQUARE MASLOW HOTEL

Sloping composite concrete filled steel columns were developed and perfected on Time Square Maslow Hotel. Due to difficult shuttering configurations, loading requirements of slabs and final architectural finishes required by the client, the engineers designed steel composite concrete filled columns ranging from 600mm diameter to 1 100mm diameter. The 'tree' columns supporting the 'cube' transfer structure extend from 5th to 11th floor



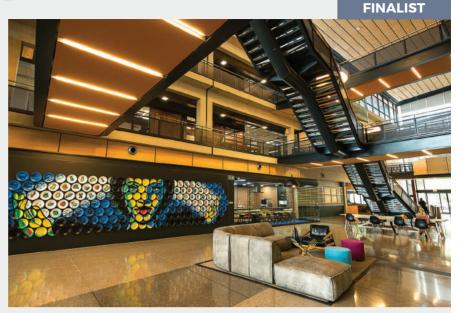
https://www.saisc.co.za/project/time-square-maslow-hotel/

### **PROJECT TEAM**

Nominator - Cadcon (Pty) Ltd | Client/Developer - Sun International | Architect - LYT Architects Structural Engineer - WSP | Engineer - WSP | Quantity Surveyor - MLC | Main Contractor - WBHO Steelwork Contractor - Cadcon (Pty) Ltd | Steel Erector - On Par | Cladding Contractor - Chartwell Roofing Corrosion Protection (paintwork contractor) - Dram Industrial Painting Contractors Photographer (photo competition) - Sun International

### RCL FOODS **HEAD OFFICE**

The concept of the RCL Foods building delivers a significant linear atrium connecting all spaces and operations of the office building. This space is entirely given over to circulation, spatial connectivity and acts as the heart of the building. The application of steel, envisaged from inception, is expressly utilized in many primary and secondary components in the atrium space and is intended to be on show as the 'theatrical' material.



https://www.saisc.co.za/project/rcl-foods-head-office-westville/

### **PROJECT TEAM**

Nominator - EPA | Client/Developer - JT Ross | Architect - EPA | Structural Engineer - BPH Engineers

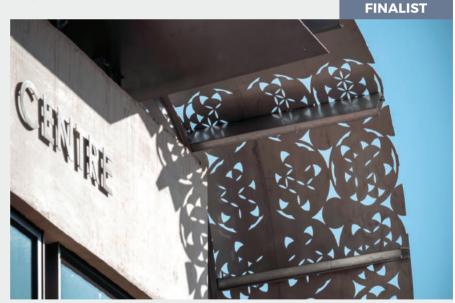
Quantity Surveyor - MLC Quantity Surveyors | Main Contractor - JT Ross | Steelwork Contractor - Rebcon Engineering

Steel Erector - Rebcon Engineering | Cladding Manufacturer - HB Interiors | Cladding Supplier - HB Interiors

Cladding Contractor - HB Interiors

### VICTOR DAITZ MATHEMATICS CENTRE

The Victor Daitz Mathematics Centre was envisaged as a combination of steel, concrete, brick and aluminium. The sunscreen roof was envisaged as a steel filigree screen with cut-out patterns. Elements of geometry and mathematics are used here as an inspiration for the creation of their forms.



https://www.saisc.co.za/project/victor-daitz-mathematics-centre/

### **PROJECT TEAM**

Nominator, Architect & Photographer (other submitted images) – StudioJoy+Architect

Client/Developer – Business Manager, King Edward VII School | Structural Engineer & Engineer – eStruct Consulting
Quantity Surveyor – Stuart Ray Skead Associates | Main Contractor – Akhane Construction (Pty) Ltd

Steelwork Contractor, Steel Erector, Cladding Contractor – Hybrid Africa | Cladding Manufacturer – Metal Graphics
Cladding Supplier – STALCOR | Corrosion Protection (galvanizing & paintwork contractor) – Hybrid Africa
Photographer (photo competition) – StudioJoy+Architects/Terse Photography

### **HOUSE MATTHEWS**

Nominator - Century Property Development

**Architect - Studious Architects** 

Structural Engineer & Engineer - C-Plan Structural

Engineers (Pty) Ltd

Quantity Surveyor, Project Manager & Main Contractor -

**Century Property Development** 

Steelwork Contractor & Steel Erector - Wrought Iron Factory

Cladding Manufacturer & Supplier - Safintra

**Cladding Contractor - Nico Grobler Dakoprigting** 

Photographer (photo competition & other submitted images) -

Nextgen Group (Pty) Ltd



https://www.saisc.co.za/project/house-matthews/

### SILO 3 & 4

Nominator - Sutherland Engineers

Client/Developer - V&A Waterfront

Architect - VDMMA & Makeka Design Lab

**Structural Engineer - Sutherland Engineers** 

**Quantity Surveyor - MLC** 

**Project Manager - MACE** 

Main Contractor - WBHO

Steelwork Contractor & Erector - LJ Le Roux Industries

Corrosion Protection (galvanizing) - Advanced Galvanizing

Corrosion Protection (paintwork contractor) - MRH Group

Photographer (photo competition) - VDMMA



https://www.saisc.co.za/project/silo-3-and-4/

### **SOWETO SPORTS CENTRE**

Nominator - Safintra

**Architect** - Iyer Architects

Engineer - Archway Projects

Main Contractor - Shomang Construction

Cladding Manufacturer - Safintra

Cladding Supplier - Safintra

**Cladding Contractor** – RSS Roofing

Photographer (photo competition) - Sublime Film



https://www.saisc.co.za/project/soweto-sports-centre/

### WUPPERTHAL PEDESTRIAN BRIDGE

Nominator - SMEC South Africa (Pty) Ltd

**Client/Developer** - Department of Rural Development and Land Reform

Structural Engineer & Engineer - SMEC South Africa (Pty) Ltd

Project Manager - iX Engineers (Pty) Ltd

Main Contractor & Steel Erector - Guerrini Marine Construction

Steelwork Contractor - Just Engineering

Photographer (photo competition & other submitted images) - SMEC South Africa (Pty) Ltd



https://www.saisc.co.za/project/wupperthal-pedestrian-bridge/

### RISSIK STREET POST OFFICE

Nominator - MPW Steel Construction

Client/Developer - City of Johannesburg

**Architect** - Paradign Architects

Structural Engineer - Asakheni Consulting Engineers

Main Contractor - Inkanyeli

Steelwork Contractor - MPW Steel Construction

Steel Erector - MPW Steel Construction

Photographer (photo competition) - MPW Steel Construction



https://www.saisc.co.za/project/rissik-street-post-office/

### **NIKE-THE PULSE**

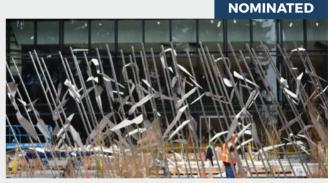
Client - Nike Inc.

Nominator - Spiral Engineering cc

Artist - Marco Cianfanelli

Structural Engineer - John Duncan

Steelwork Contractor - Spiral Engineering cc



https://www.saisc.co.za/project/nike-pulse/

### **RADISSON HOTEL - SILO 6**

Nominator - Global Roofing Solutions

Architect - Peeruting + Design Space Africa

Structural Engineer - Arup South Africa

Quantity Surveyor - MLC Cape Town

**Cladding Manufacturer** - Global Roofing Solutions

**Cladding Supplier** - Global Roofing Solutions

**Cladding Contractor** - Chartwell Roofing



https://www.saisc.co.za/project/radisson-hotel-at-silo-6/

### STORTEMELK HYDROPOWER

Nominator - Earthworld architects & interiors

Client/Developer - REH Group

Architect - Earthworld architects & interiors

Structural Engineer - Aurecon

Main Contractor - Eigenbau



https://www.saisc.co.za/project/stortemelk-hydropower/



# COMMERCIAL CATEGORY WINNER

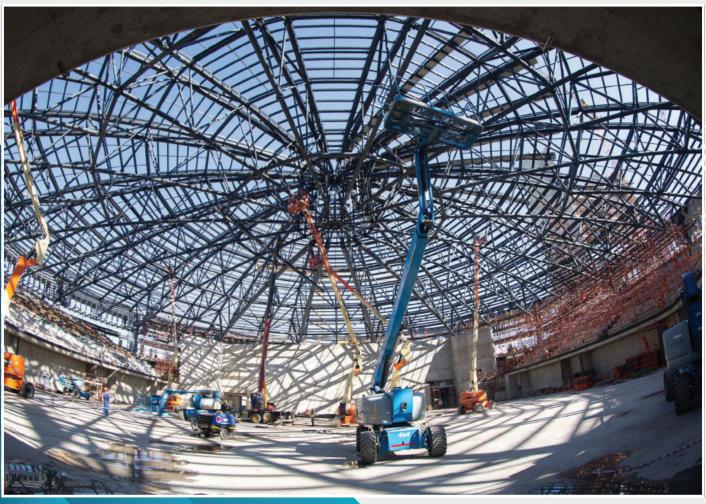
Awards App and on the SAISC's website: www.saisc.co.za

We encourage you to explore and draw inspiration from the

projects on the following pages.

AND STEEL AWARD 2018 OVERALL WINNER

### **TIME SQUARE SUN ARENA**



https://www.saisc.co.za/project/sun-international-times-square-main-arena/

### 33 BAKER STREET

Baker Street at its core was an upgrade of a current concrete building that was to be equipped with new structural steel to accommodate impressive looking glass and facades with panelling on the exterior. The upgrade enabled the developer to accommodate multiple tenants in a desirable and modern facility.



https://www.saisc.co.za/project/33-baker-street/

### **PROJECT TEAM**

Nominator - KRU Detailing cc on behalf of Central Welding Works | Client/Developer - Redefine - Sasol Pension Fund
Architect - SVA Architects | Structural Steel Detailer - KRU Detailing cc | Engineer - Sutherland Engineers
Quantity Surveyor - Matla | Project Manager - TPM Project Management | Main Contractor - WBHO
Steelwork Contractor, Steel Erector & Photographer (other submitted images) - Central Welding Works
Cladding Manufacturer, Supplier & Contractor - Hunter Douglas
Glass Facades - Diri Glass | Rigging/Cleaning Rails - Gravity Access





# OUR LADY OF LOURDES - RIVONIA CHURCH



https://www.saisc.co.za/project/our-lady-of-lourdes-rivonia-church/

The brief to the Our Lady of Lourdes - Rivonia Church project team was to design a long span octagonal roof, acoustically insulated from rain and hail. The brief included the design of a complex shaped and vaulted ceiling below, designed with specific acoustic properties. A specialist Acoustic Consultant was employed to assist in the form and specification of the roof coverings as well as ceiling below.

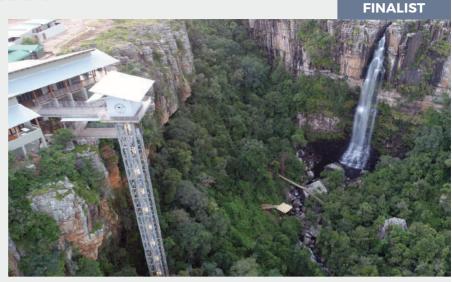
### **PROJECT TEAM**

Nominator - KRU Detailing cc Client/Developer - Rivonia Catholic Church and The Shopz Group **Architect** - AIB Architects Structural Steel Detailer - KRU Detailing cc Structural Engineer - Rouillard Consulting **Engineer** - Rouillard Consulting **Quantity Surveyor - Norval Wenzel Steinberg Project Manager - Rouillard Consulting** Main Contractor - Interbau Steelwork Contractor - Central Welding Works Steel Erector - Central Welding Works **Cladding Manufacturer** - Global Roofing Solutions Cladding Supplier - Tate & Nicholson Contractor - Tate & Nicholson **Corrosion Protection (Paintwork Contractor) -Dram Industrial Painting Contractors** 



### GRASKOP GORGE LIFT SHAFT

The objective of the Graskop Gorge lift structure project was to create an exciting and popular tourist stop over point on the Panorama Route. The purpose of the structure is to accommodate the glass viewing panoramic lift taking visitors 51m down the face of the Graskop Gorge into the forest below, where wooden walkways and suspension bridges meander along a 600 metre trail through the indigenous forest with interactive exhibits.



https://www.saisc.co.za/project/graskop-gorge-lift-structure/

### **PROJECT TEAM**

Nominator - Fourie Consulting Engineers I Architect & Photographer (photo competition) - Förtsch and Associates Architects

Client/Developer - Graskop Gorge Lift Company in partnership with the NEF (National Empowerment Fund)

Structural Engineer & Engineer - LEW Consulting Engineers (Pty) Ltd I Project Manager - Purlin Consulting

Quantity Surveyor - Siyakha Quantity Surveyors (Pty) Ltd I Main Contractor - ENZA Construction (Pty) Ltd

Steelwork Contractor & Steel Erector - Quality Steel Construction (Pty) Ltd I Cladding Contractor - Roofing Solutions cc

Cladding Manufacturer & Supplier - Safintra I Corrosion Protection (galvanizing) - Babcock Nthuthuko Powerlines (Pty) Ltd

Photographer (other submitted images) - Förtsch and Associates Architects and ENZA Construction (Pty) Ltd

### TIME SQUARE MASLOW HOTEL

The Time Square Maslow Hotel project consists of approximately 130 tons of structural steel and has bolt count of 2 447. The 'tree' columns supporting the 'cube' transfer structure extend from 5th to 11th floor, and support 3 levels of hotel.



https://www.saisc.co.za/project/time-square-maslow-hotel/

### **PROJECT TEAM**

Nominator - Cadcon (Pty) Ltd | Client/Developer - Sun International | Architect - LYT Architects Structural Engineer - WSP | Engineer - WSP | Quantity Surveyor - MLC | Main Contractor - WBHO Steelwork Contractor - Cadcon (Pty) Ltd | Steel Erector - On Par | Cladding Contractor - Chartwell Roofing Corrosion Protection (paintwork contractor) - Dram Industrial Painting Contractors Photographer (photo competition) - Sun International

### WHALECOAST MALL

The objective of Whalecoast Mall in Hermanus was to provide a first-class retail centre for the local and outlying neighbourhoods. The structural engineer together with main contractor and Steelwork contractor workshopped the concept to make use of the lightest structural members without compromising the aesthetic and function required by the architect and client. Models were shared to assist in reducing clashes on site as well as to eliminate on site alterations to prefabricated steel.



https://www.saisc.co.za/project/whalecoast-mall/

### **PROJECT TEAM**

Nominator - Safintra | Architect - JL Design & Bentel Associates International

Client/Developer - Whale Coast Village Mall (Pty) Ltd, HCI Propcom (Pty) Ltd, Sandbaai Development Trust & Shoprite Checkers

Structural Engineer - Bigen Africa Services (Pty) Ltd | Quantity Surveyor - MLC Quantity Surveyors

Project Manager - MDSA Project Management | Main Contractor - Isipani Construction

Steelwork Contractor & Steel Erector - Mazor | Cladding Manufacturer & Supplier - Safintra

Cladding Contractor - Cladco Projects | Photographer (photo competition) - Fourth Wall Photography

### **ROSEBANK LINK**

At 15 stories above the ground, the Rosebank Link building consists of two basement parking levels, a ground floor or public/retail level, five parkade levels, and nine stories of offices from a podium level. As a building standing foremost in the center of a developing cosmopolitan area, the client wanted to have a unique building, that served the needs of the client, its neighbours, as well as the public in a new, exciting, and smart way.



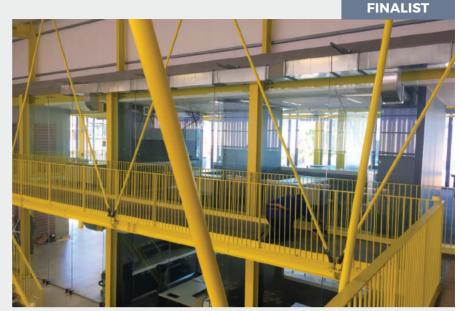
https://www.saisc.co.za/project/rosebank-link/

### **PROJECT TEAM**

Nominator - KRU Detailing cc I Client/Developer - Redefine I Architect - Paragon Group
Structural Steel Detailer - KRU Detailing cc I Structural Engineer & Engineer - Sutherland
Project Manager & Main Contractor - WBHO I Steelwork Contractor & Steel Erector - Central Welding Works
Cladding Manufacturer, Supplier & Contractor - Façade Solutions

### VIDEOJET PAARL

The project team were briefed to design the new VideoJet Paarl office and workshop, in a way that would to set the tone for the future of this subdivision of the HG Molenaar brand. HG Molenaar are pioneers in food process machines, and have the ability to manufacture high end steel features. This project is a showpiece for their abilities and an excellent sample for their existing and prospective clients



https://www.saisc.co.za/project/videojet-paarl/

### **PROJECT TEAM**

Nominator - Emerging Architecture | Client/Developer - HG Molenaar - Videojet | Architect - Emerging Architecture | Structural Engineer - Ekon Engineers and Project Managers | Main Contractor - TR S Construction | Steelwork Contractor - HG Molenaar | Steel Erector - HG Molenaar | Cladding Manufacturer - HG Molenaar | Cladding Supplier - HG Molenaar | Cladding Contractor - HG Molenaar | Photographer (Photo competition) - Emerging Architecture

### CORNUBIA MALL

Nominator - Global Roofing Solutions

Client/Developer - Investec Property Group

**Architect** - Bental Associates

Structural Engineer - Pure Consulting

**Engineer - CKR Consulting Engineers** 

Main Contractor - WBHO

Steelwork Contractor & Steel Erector - Cadcon (Pty) Ltd

Cladding Manufacturer & Supplier - Global Roofing Solutions

**Cladding Contractor** - Chartwell Roofing



https://www.saisc.co.za/project/cornubia-mall/

### **LOFTUS PARK**

Nominator - Safintra

Client/Developer - Abland

Architect - Studio 9 International

Project Manager - Redefine Property Group

Main Contractor - WBHO

**Cladding Contractor - Chartwell Roofing** 

Photographer (photo competition) - Sublime Film

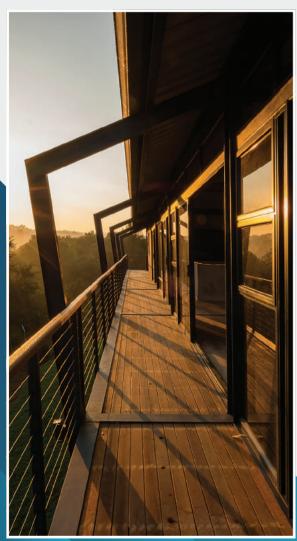


https://www.saisc.co.za/project/soweto-sports-centre/



# RESIDENTIAL CATEGORY WINNER

### **HOUSE MATTHEWS**



https://www.saisc.co.za/project/house-matthews/

Steel is a versatile material, able to facilitate the creation of large scale structures suitable for business – but how does it perform when it comes to smaller scale consumer applications? Steel enables bold architects to achieve dynamic and visually appealing forms, enjoyed by end users in residential applications.

All Steel Awards 2018 projects can also be found on the Steel Awards App and on the SAISC's website: www.saisc.co.za

We encourage you to explore and draw inspiration from the projects on the following pages.

In 2014 Colin Matthews, owner of Mercury Steel Construction, had a vision to build his dream home in Helderfontein Estate, Fourways on the Jukskei River banks. The majority of the home was designed to reflect his passion for steel, both structurally and aesthetically.

Mercury Steel was a reputable company doing most of its steel work for Century Property Developments for the last 20 years, with a turnover of R25m a year in the residential market. They've won awards in galvanized steel construction and been a pillar in the design and execution of many Century buildings within their developments.

Sadly, Colin passed away in January 2017 leaving the house with only the structural steel skeleton complete. Richard Wands and Jessica Hofmeyr, who owned the neighbouring stand, purchased the stand with completed structure from the deceased estate and selected Century Property Developments to complete the house in honour of Colin Matthews.

The brief to the architect was to ensure that steel remains the dominant element in the design, creating strong features yet also a light quality due to the slabs and walls sitting within the webs of the I-beams. Externally, the use of steel is dominant and aggressive, with massive beams and columns. In the interior, steel is forever present, but subtle and discreet where the beams form part of the floor finish, the soffit and the walls. Steel enables a lean design and removes the obstructiveness of large brick/concrete columns and beams, which would otherwise be required for all the large openings. The steel allows natural light to enter the house and exposes the home's magnificent view.

Structurally, the house consists of 3 floors and the structural frame was designed and built mainly with  $254 \times 146 \times 37 \text{kg}$  horizontal I-beams to carry the middle and upper level exposed concrete suspended slabs. The larger beams enable the suspended slabs to sit perfectly in the web of the steel beams.  $152 \times 37 \text{kg}$  vertical H-columns allow the brickwork to be flush and the windows to sit neatly within.

The roof structure's top frame is constructed with 203 x 133 x 25kg I-beams with the rafters being steel IPE 160 sections.

Purlins consisted of 150 x 65 x 20 x 2.5 CFLC sections tying the structure together.

Cantilevered balconies are supported by 160 x 80 x 3 RHS columns running down the front of the house on an angle, creating a top-heavy cantilevered look, with the house seemingly on stilts.

The gables and the garages were cladded with Safintra Trimflute Sheeting. The requirement for the cladding to sit flush with the 254 I-beam steel outer flange meant we had to use a 140mm cement brick to allow for spacing, and the battens needed 20mm square tubing.

From the driveway to the bottom floor the site has a 7m fall, making access extremely difficult. Steel sections had to be placed by a crane sitting on the top level. The steel frame ensured that the building was plumb and square, which then made setting out walls and levelling slabs etc. easy to achieve. Ensuring that services all ran in the concrete slab and into the walls – without seeing any of the conduits – was a challenge and holes had to be drilled through all the internal horizontal beams to allow for water, gas and electrical piping. These areas had to be strengthened with structural fins within the steel web. Outer walls had to be built with the outer brick laid flat and the inner brick on edge, to ensure that the plaster didn't protrude beyond the

steel internally. This resulted in a clean finish, with the edges of the I-beam flanges being flush with the plaster.

Regular meetings were required early on to mitigate challenging details which could not be foreseen in the planning stage. The contractor, engineer and architect were constantly involved to ensure that the building could function structurally and aesthetically without compromising the look of the steel or any other part of the house

A challenging project indeed, but very rewarding and evident in the final product.

Tons of structural steel used: 21.396 tons

**Structural profiles used:**  $I - 254 \times 146 \times 37 / I - 203 \times 133 \times 25 / H - 152 \times 152 \times 37 / Ipe 160 / Cflc 150 <math>\times 65 \times 20 \times 2.5 / Rhs 160 \times 80 \times 3$ 

Cladding profile/type used: Safintra Trimflute - Colour

Thunderstorm

Cladding area/coverage and tonnage: 208m<sup>2</sup> / 1.04 tons

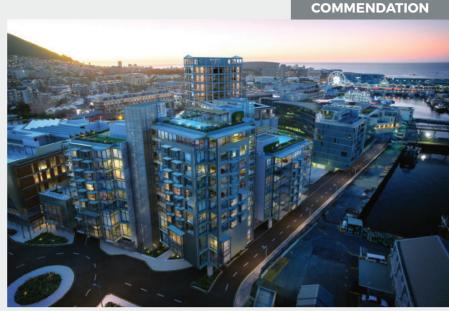


### **PROJECT TEAM**

### SILO 3 & 4

No. 3 Silo consists of 3 independent apartment towers containing 79 high end apartments over 11 floors. The 3 towers are connected by 2 steel framed lift and stair cores enclosed in expanded aluminium mesh, providing spectacular views of the harbour and V&A precinct.

Silo 4 essentially forms the base for the apartment towers and contains an upmarket gym facility over 2 floors. A double volume pool pavilion faces onto Silo Square, with panoramic views of the new Zeitz MOCAA Gallery, Silo Hotel and surrounding Silo District public



https://www.saisc.co.za/project/silo-3-and-4/

### **PROJECT TEAM**

Nominator - Sutherland Engineers | Client/Developer - V&A Waterfront | Architect - VDMMA & Makeka Design Lab

Structural Engineer - Sutherland Engineers | Project Manager - MACE | Main Contractor - WBHO

Steelwork Contractor - LJ Le Roux Industries | Steel Erector - LJ Le Roux Industries

Correction Protection (galvanizing) | Advanced Calvanizing | Correction Protection (galvanizing) | MBH Croy

Corrosion Protection (galvanizing) - Advanced Galvanizing | Corrosion Protection (paintwork contractor) - MRH Group
Photographer (photo competition) - VDMMA





# Best Performing WIDE-COVERAGE CONCEALED FIX System on the market



# Engineered to keep your roof LOCKED DOWN!

- Achieves 2kPa\* hold down in negative wind uplift load tests at maximum span
- State-of-the-art clip\*\* features a solid anchor base, ensuring unyielding clip engagement at every rib
- Unique system provides enhanced underlapping edge stability
- The clip angle is maintained ensuring that shoulders remain in contact with edge spur
- Deep pans with longitudinal rib embossing strengthens the sheet and allows for excellent water run-off and minimal dust collection
- \*Results after a 30% safety reduction factor
- \*\*Design Registration# F2017/00455

\*Results after a 30% safety reduction factor \*\*Design Registration# F2017/00455



Johannesburg, Cape Town, Durban, Port Elizabeth, Polokwane, Nelspruit, Bloemfontein.

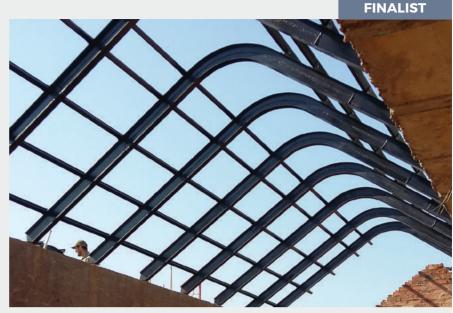
Email: info.safintrasa@safalgroup.com | www.safintra.co.za

Further branches throughout SADC, Southern and Eastern Africa. www.safintra.com



### **HOUSE EAGLE HEIGHTS**

The majestic House Eagle Heights rises up from a beautiful portion of land with views in all directions. The soft curves of the building as well as the material palette allows the building to gracefully blend into its surroundings. The steel trusses were designed to enhance the aesthetics of the building, bringing in softer lines.



https://www.saisc.co.za/project/house-eagle-heights/

### **PROJECT TEAM**

Nominator - Strey Architects and Associates (Pty) Ltd | Architect - Strey Architects and Associates (Pty) Ltd | Structural Engineer - PVA Consulting Engineers cc | Project Manager - Earthstone Properties | Main Contractor - Earthstone Properties | Steelwork Contractor & Steel Erector - Gert Visser Staalwerke | Photographer (photo competition & other submitted images) - Strey Architects and Associates (Pty) Ltd

### **HOUSE VAN ROOYEN**

House Van Rooyen is a 480m<sup>2</sup> house in Kleinmond, constructed in 5 months, using Light Steel Frame Building systems.



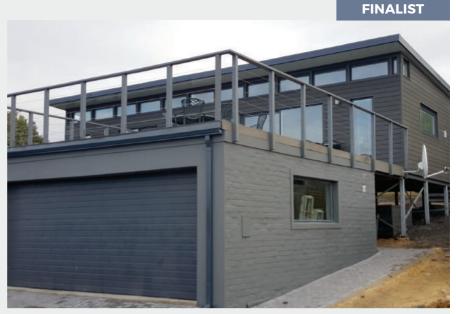
https://www.saisc.co.za/project/van-rooyen/

### **PROJECT TEAM**

Steel Supplier - Pholaco I Main Contractor - Rancor I Structural Engineering - EMC Engineering

### **HOUSE PIENAAR**

House Pienaar is a 190m<sup>2</sup> house in Kleinmond, constructed in a mere 12 weeks using Light Steel Frame Building systems.



https://www.saisc.co.za/project/pienaar/

### **PROJECT TEAM**

Nominator - Rancor | Steel supplier - Pholaco | Main contractor - Rancor | Structural Engineering - EMC Engineering

### **HOUSE WOLHURTER**

House Wolhurter is a 250m² house. All walls, trusses and roof panels were constructed using Light Steel Frame Building systems.



https://www.saisc.co.za/project/house-wolhurter/

### **PROJECT TEAM**

Nominator - Shospec (Pty) Ltd | Client/Developer - Private | Architect - Equilibrium Architectural Solutions cc

Structural Engineer - Martin & Associates | Project Manager - Shospec (Pty) Ltd | Main Contractor - Shospec (Pty) Ltd

Steel Erector - Shospec (Pty) Ltd | Cladding Manufacturer (walls) - Shera & CAPCO

Cladding Supplier (roof) - Safintra | Cladding Contractor - Four Seasons Industrial Roofing (Pty) Ltd

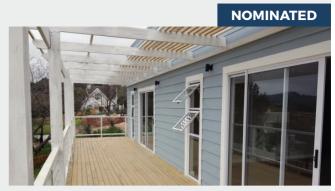
Photographer (other submitted images) - Shospec (Pty) Ltd

### **HOUSE LABUS**

Steel Supplier - Pholaco

Main Contractor - Rancor

Structural Engineering - EMC Engineering



https://www.saisc.co.za/project/labus/

### **HOUSE WILCOX JONES**

Steel Supplier - Pholaco

Main Contractor - Rancor

Structural Engineering - EMC Engineering



https://www.saisc.co.za/project/wilcox-jones/

### **HOUSE SCHMIDTZ**

Nominator - Rancor
Steel Supplier - Pholaco
Main Contractor - Rancor
Structural Engineering - EMC Engineering



https://www.saisc.co.za/project/schmidtz/

LIGHT STEEL FRAME BUILDING
HAS BECOME VERY POPULAR IN
THE RESIDENTIAL MARKET OVER
RECENT YEARS, DUE TO THE SPEED
OF CONSTRUCTION AS WELL AS
ACOUSTIC AND THERMAL
EFFICIENCY.

SASFA, the SOUTHERN AFRICAN LIGHT STEEL FRAME BUILDING ASSOCIATION runs a 6 day course for builders in order to acquaint them with this innovative building technology.

For more information on Light Steel
Frame Building, or upcoming
courses and events, visit www.sasfa.co.za or contact
John Barnard - john@sasfa.co.za



# SAFINTRA FACTORY & WAREHOUSE CATEGORY

## WINNER

AND GRS METAL CLADDING CATEGORY WINNER

# SHOPRITE CHECKERS CILMOR DISTRIBUTION CENTRE



### SAFINTRA - WORLD CLASS ROOFING SYSTEMS

Safintra is a premier supplier of steel roofing and cladding products in Southern Africa, with a reputation built over 25 years. It supplies a range of sheeting profiles, complete with the accessories and value adding components that make up its respected proprietary cladding solutions. With 7 branches in South Africa alone, and further offices in Namibia, Mozambique, Zambia, Malawi and throughout East Africa, Safintra is part of the largest roofing company in Africa, called the Safal Group.

Its well-known brands are trusted to deliver consistently excellent performance in even the most extreme weather conditions, and its engineers work closely with clients to fulfill the most demanding challenges in design.



https://www.saisc.co.za/project/shoprite-climor-distribution-centre/

Contact: Telephone.: +27 11 323 6300 Email: info.safintrasa@safalgroup.com Website: www.safintra.co.za

### GIBELA MANUFACTURING FACILITY

The Gibela Manufacturing Facility is approximately 50 000m<sup>2</sup> and designed for the manufacturing of 580 trains for PRASA. The structure accommodates overhead cranes ranging from 2 ton to 2 x 10 ton tandem cranes. The main frame of the Gibela Manufacturing Facility consists of both lattice and I-columns at 8 meter grid spacing. The roof consists of steel trusses made up of angle sections. Purlins and girts consists of Metsec profiles. Metsec purlin and side rail systems are manufactured from high strength steel which allows for larger purlin and girt spacing and an overall lighter structure.



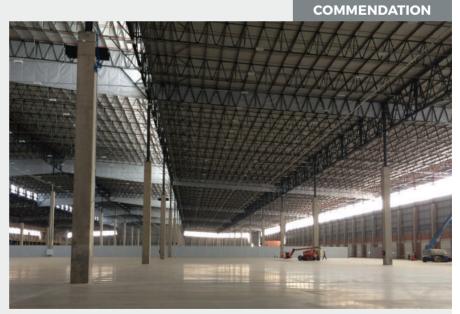
https://www.saisc.co.za/project/gibela-new-manufacturing-facility-dunnotar/

### **PROJECT TEAM**

Nominator - AECOM | Client/Developer - Gibela | Architect - AECOM | Structural Engineer - AECOM | Engineer - AECOM | Project Manager - AECOM | Main Contractor - Trencon | Steelwork Contractor - Churchyard and Umpleby | Steel Erector - Louwill Lefa | Cladding Manufacturer - Powersteel (Louwill Lefa) | Cladding Supplier & Contractor - Global Roof Solutions | Photographer (photo competition) - AECOM

### PEPKOR WAREHOUSE

The Pepkor warehouse consists of 80 000m² of covered warehouse space (180m wide and 440m long) with approximately 17.35m clear height to the underside of the eaves. A total of 2 500 tons of structural steel was erected over a period of 90 working days to erect on average of 24 tons per day over a period of 4.5 months, using on average 8 cranes on site.



https://www.saisc.co.za/project/pepkor-warehouse/

### **PROJECT TEAM**

Nominator & Structural Engineer - EDS Engineering Design Services (Pty) Ltd
Client/Developer - Rokwil Property Development | Architect - T C Design Architects
Quantity Surveyor - MHS Consulting Quantity Surveyors | Project Manager - Dave Armstrong
Main Contractor & Photographer (photo competition) - Abbeydale Building and Civils (Pty) Ltd | Steelwork Contractor - Cadcon (Pty) Ltd
Steel Erector - Fanie Leibrandt Steel Erectors | Cladding Manufacturer - Macsteel Service Centres (Pty) Ltd
Cladding Contractor - Impact Engineering (Pty) Ltd | Cladding Supplier - Macsteel Service Centres and Engineering (Pty) Ltd
Corrosion Protection (galvanizing) - Dram Industrial Painting Contractors

### MERCEDES BENZ J-SITE LOGISTICS BUILDING

The roof design loads on the Mercedes Benz J-Site Logistics Building include future PV cell installation, the selfweight of the built-up roofing system, technical services and conveyor loading. This loading is far in excess of the average industrial building loading, resulting in a potentially heavier overall structure. Savings on the steel tonnage was however made by breaking away from the norm in utilising hot-rolled purlins, eliminating sag bars, and truss and designing girder connections that eliminate the need for gusset plates.



https://www.saisc.co.za/project/mercedes-benz-j-site-logistics-building/

### **PROJECT TEAM**

Nominator - AECOM | Client/Developer - Mercedes-Benz South Africa | Architect - AECOM Structural Engineer - AECOM | Project Manager - AECOM | Steelwork Contractor - Impact Engineering Cladding Manufacturer - Safintra | Cladding Supplier - Safintra | Cladding Contractor - Impact Engineering Corrosion Protection (paintwork contractor) - Insimbi Coatings









Safintra offers a wide choice of sheeting profiles including the highly respected Saflok and Newlok concealed fix systems.

It also supplies a full range of roof system accessories and associated products for a complete cladding solution.

These include made-to-order flashings, ventilators and louvres, plus warranted Fixtite Fasteners, the Saftherm range of insulation products, and other specialist components.

Safintra offers full technical support services from all branches.



























Johannesburg, Cape Town, Durban, Port Elizabeth, Polokwane, Nelspruit, Bloemfontein. Email: info.safintrasa@safalgroup.com / www.safintra.co.za Further branches throughout SADC, Southern and Eastern Africa. www.safintra.com

### **ASHGATE**

The Ashgate development comprises three separate warehouse structures for the storage and distribution of chemicals, ancillary structures for staff and maintenance, hardstands and drainage required within the Umbogintwini Industrial Complex on a brown field site. Warehouse A is designed to store the flammable bulk chemicals in the facility. The connection of the steelwork to the precast concrete elements required some unusual connections for the purlins which are chemically anchored to the top of the wall.



https://www.saisc.co.za/project/ashgate/

### **PROJECT TEAM**

Nominator - ARUP (Pty) Ltd | Client/Developer - Newlyn | Architect - Paton Taylor Architects

Structural Engineer - Arup (Pty) Ltd | Quantity Surveyor - BTKM | Project Manager & Main Contractor - Newlyn Group

Steelwork Contractor & Steel Erector - Impact Engineering (Pty) Ltd

Cladding Manufacturer & Supplier - Global Roofing Solutions | Cladding Contractor - Impact Engineering (Pty) Ltd

Corrosion Protection (galvanizing) - Phoenix Galvanising and Durban Galvanising

### **CORRUSEAL WAREHOUSE**

The client's requirement for Corruseal Warehouse was a facility of approximately 30 000m² and associated offices of approximately 500m² on two levels. The factory/ warehouse was to have a width of at least 150m and was to allow for future extension. The eaves height was to be at least 6.5m. The barrel-vaulted roof made use of cellular beams because of the ease of introducing a radius to the rafters.

## FINALIST



https://www.saisc.co.za/project/corruseal-warehouse/

### **PROJECT TEAM**

Nominator - Macsteel Service Centres I Client/Developer - Corruseal Group

Structural Engineer - Alan McNaughton & Associates I Main Contractor - JNM Construction

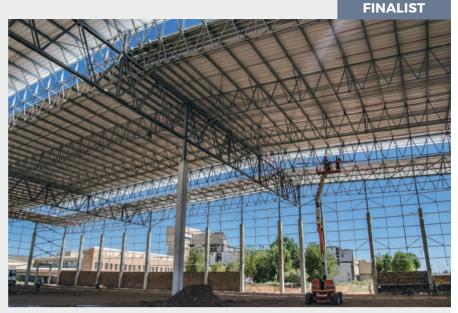
Steelwork Contractors - Avellini Bros (Pty) Ltd and Union Steel I Steel Erector - Union Steel

Cladding Manufacturer - Blue Scope Steel I Cladding Supplier - Global Roofing Solutions

Cladding Contractor - Chartwell Roofing

### TRADEPORT CITY DEEP

Tradeport City Deep was designed with large internal column spacing, creating a versatile open storage area and dedicated racking layout with minimal loss of space due to column interference. The warehouse spanned over a total of 30 000m<sup>2</sup> in total comprising of three storage segments inside with a 12m clear eave height.



https://www.saisc.co.za/project/tradeport-city-deep/

### **PROJECT TEAM**

Nominator - KRU Detailing cc | Client/Developer - Fortress Fund Developers | Architect - ICM Architects

Structural Engineer & Engineer - EDS Engineering Design Services | Structural Steel Detailer - KRU Detailing cc

Quantity Surveyor - Quanti Cost Quantity Surveyors | Project Manager - Fortress Fund Developers

Main Contractor, Steelwork Contractor & Steel Erector - SE Steel Fabrication

Cladding Manufacturer, Supplier & Contractor - Pinnacle Cladding

### WILCOX ROAD

Wilcox Road is a large span logistics warehouse in Prospecton, near the Durban Port. The structural framing consists of castellated columns, lattice girders, angles, tubes, and 450MPa purlin sections. The scope was changed during fabrication and the height of the structure was increased due to tenant requirements.



https://www.saisc.co.za/project/wilcox-road/

### **PROJECT TEAM**

Nominator - Cousins Steel International | Client/Developer - Newlyn Group

Structural Engineer - Cousins Steel International | Engineer - Arup | Main Contractor - Voeran Construction

Cladding Manufacturer - SAFAL | Cladding Supplier - Global Roofing Solutions

Corrosion Protection (paintwork contractor) - Insimbi Coatings

### HEINEKEN PROJECT BIG

The approximately 18 800m<sup>2</sup> of warehouse area for Heineken Project BIG was constructed to provide the client with additional storage capacity for finished products. After careful design considerations, the structural engineer identified opportunities to further optimize the new structural members by deviating from the heavy original structure which had been designed for European snow loads. As a result hot rolled I-sections were used. The original concrete box gutters were also replaced with steel girders and gutters in order to reduce cost and increase the speed of construction.



https://www.saisc.co.za/project/heineken-warehouse/

### **PROJECT TEAM**

Nominator, Structural Engineer & Engineer – ESABA Consulting Engineers (Pty) Ltd

Client/Developer – Heineken South Africa | Architect – Designdex Architect | Main Contractor – AVENG Grinaker LTA

Quantity Surveyor, Project Manager & Photographer (photo competition) – ESABA Consulting Engineers (Pty) Ltd

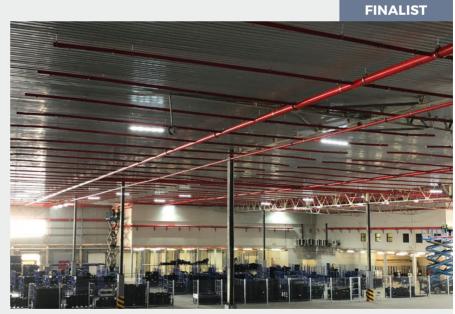
Steelwork Contractor, Steel Erector & Corrosion Protection (galvanizing & paintwork contractor) – BOKSAN Projects cc

Cladding Manufacturer, Supplier & Contractor – Chartwell Roofing

Photographer (other submitted images) – ESABA Consulting Engineers (Pty) Ltd and Fowlds Photography

### **CITY LOGISTICS**

All structural steel and cladding for the City Logistics was retrofitted to the existing and new steelwork from inside the warehouse, off cherry pickers and scissor lifts. Due to the installation limitations and material handling the sheets were delivered in 4m lengths, all off scissor lifts. Cladding had to span across 78m, in-between sprinkler droppers, lights, electrical cable trays, and at times inbetween the existing lattice trusses.



 $https:/\!/www.saisc.co.za/project/city-logistics-ceiling/\\$ 

### **PROJECT TEAM**

Nominator - Cousins Steel International | Client/ Developer - City Logistics | Architect - RHA
Structural Engineer - Sotiralis Consulting Engineering | Quantity Surveyor & Project Manager - Quantil
Engineer, Main Contractor & Steelwork Contractor & Steel Erector - Cousins Steel International

Cladding Manufacturer - SAFAL | Cladding Supplier - Safintra | Cladding Contractor - Cousins Steel International

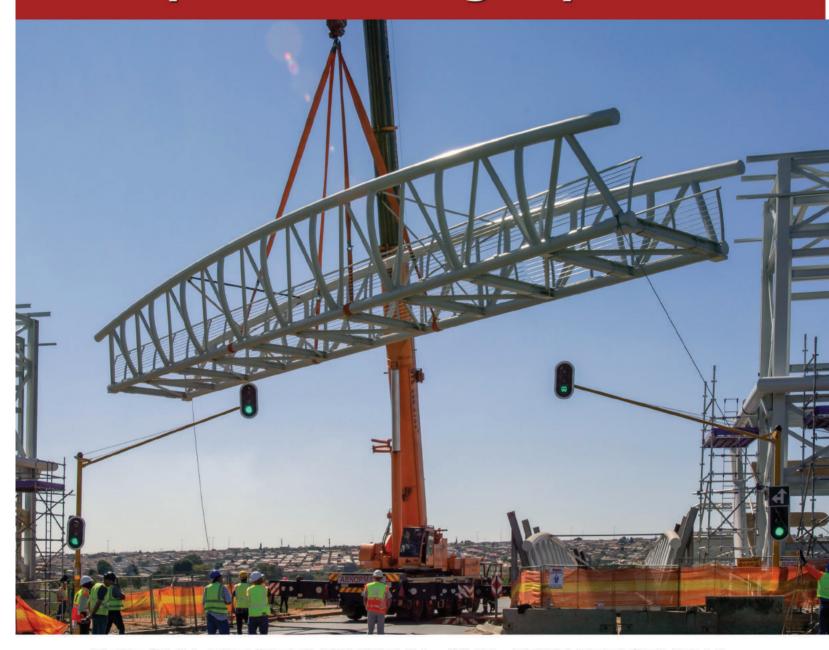
Corrosion Protection (galvanizing & paintwork contractor) - Cousins Steel International

Photographer (photo competition) - Cousins Steel International

# KHOMBANANI

# STEEL

# Our quest is lasting impressions



# SPECIALIST STRUCTURAL AND ARCHITECTURAL STEELWORK CONTRACTOR

Level 2 BBBEE contributor and value added supplier.

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### **BOSCH WAREHOUSE**

**Nominator** - Global Roofing Solutions

Client/Developer - Bosch

**Architect** - Empowered Spaces

Structural Engineer - Kantey & Templer Engineers

**Quantity Surveyor** – IBP Construction **Main Contractor** – Bantly Construction

Steelwork Contractor & Steel Erector - Steel Band

Structural Steel Detailer - KRU Detailing

Cladding Manufacturer & Supplier - Global Roofing Solutions

**Cladding Contractor - Roofline** 



https://www.saisc.co.za/project/bosch-warehouse/

### **INOXA MANUFACTURING FACILITY**

Nominator - DAVGO Steel Construction

Client/Developer & Main Contractor - Shree Property Holdings

Architect - Zadar Studio

Structural Engineer - Steelkon Projects

Steelwork & Cladding Contractor, Steel Erector & Corrosion

Protection (paintwork contractor) - DAVGO Steel Construction

**Cladding Manufacturer - Global Roofing Solutions** 

**Cladding Supplier - Future Steel** 

Photographer (photo competition and other submitted images) -

**DAVGO Steel Construction** 



https://www.saisc.co.za/project/inoxa-manufacturing-facility/

### **INVICTA**

Nominator - Safintra

Cladding Manufacturer - Four Seasons Roofing

Cladding Supplier - Safintra

**Cladding Contractor** - Safintra

Photographer (photo competition) - Kierran Allen Photography



https://www.saisc.co.za/project/invicta/

### **WOODLANDS DAIRY**

Nominator - Safintra

Client/Developer - Woodlands Dairy

Architect, Quantity Surveyor & Project Manager - MMK Architects

Structural Engineer - Sigma Consulting

Main Contractor - WBHO

Steelwork Contractor, Erector & Corrosion Protection (paintwork contractor) - USS (Uitenhage Super Steel)

Cladding Manufacturer & Supplier - Safintra

Cladding Contractor - Cladall

Corrosion Protection (coating) - PPG Protective & Marine Coatings

Photographer - Impact Studio



https://www.saisc.co.za/project/woodlands-dairy-uht-warehouse/



## SAFAL STEEL **INNOVATION CATEGORY**

# WINNER

### **RISSIK STREET POST OFFICE**

### **SAFAL STEEL**

Safal Steel is a manufacturer of coated steel, bringing with it innovation to the forefront, which is in line with the Safal Group's growth strategy. Construction of Safal Steel commenced in KwaZulu Natal in 2008 and was completed and operational by 2010. The Cato Ridge 14.4-hectare site has 30 000m<sup>2</sup> under its roof and manufactures Aluminium-Zinc coated steel coils which are supplied to both local and global markets.

Produced in a variety of widths and gauges the coils are branded ZincAL® for its unpainted material and COLORPLUS® or OPTIMA® for its painted material. Further variants of Colorplus for specific applications are also manufactured - Colorplus Matt, Colorplus Textured and Colorplus Ultima®.

Safal Steel produces coated steel to world-class standards. ZincAL®. COLORPLUS® and OPTIMA® undergo regular and extensive quality assurance tests during manufacture.

Safal Steel hosts countrywide CPD events, thereby increasing its footprint across South Africa, while educating and informing the markets in the value of coated steel.

The Safal Group was first in Africa to introduce Aluminium-Zinc (AZ) Coating Technology under BIEC, the worldwide licensor and acknowledged leader in technologies associated with 55% Aluminium-Zinc coated steel.

Safal Steel is a member of The Safal Group.



https://www.saisc.co.za/project/rissik-street-post-office/

Contact: Helen Reis Telephone: + 27 31 782 5500 Email: helen.reis@safalgroup.com

The greatest challenge with the Rissik Street Post Office project was working within the allowed space in a safe and secure manner. As this was a restoration project great care had to be taken in the erection of the structural steel which would create support for the entire structure. Each of the structural members had to be measured on site to allow for precision fabrication. Further to the installation each section had to be monitored due to the damage caused by a fire in 2009. Special care had to be taken with the installation of the steel members and the connections to ensure sufficient support.

#### **Judges Comment, Amanuel Gebremeskel**

"There are two aspects of this projects that I would classify as being very innovative. One is the restoration and preservation of the post office building itself. That is something that is relatively new in the South African context. What is notable is that it's one of the first buildings in the world which used steel as part of its flooring system which was a nice pleasant surprise. The fact that steel is being used to restore the building, in a way rhymes with the old building. The innovation lies in the fact that the developers and the owners have taken the initiative to preserve that building. The CBD has a lot of old buildings that are very beautiful and I hope this is going to continue.

The technical innovation comes in that the team is building an entire frame building, inside another building.

This is very complicated to do because you can't access the site with cranes. What they did was use light enough steel structures that could be lifted by small equipment, and then assembled them into something large enough to support those multi story brickwork facades. Well done to the team for what must have been a very complicated design, fabrication and erection process."

#### **Fabricator's Comment, Nic Tallarico**

"What made the project quite challenging was 1 – the location, being the centre of Johannesburg and 2 – working with a building that is over 100 years old which was damaged by fire and required some careful management from all involved to makes sure that the final product was as per spec and engineering.

One of the challenges was the fact that we couldn't remove the roof structure to bring in the new steelwork. We made everything in pieces that were easy to handle that we could bring into the building via window or door openings. We could only deliver material within certain times of the day either between 3 and 4am or late at night. In terms of getting the structural steel up the biggest challenge was that the building had to be measured to make sure that whatever we brought to site would actually fit. Some of the walls were leaning outward already and we had to customise each girder to make sure that the space utilisation was correct. Very few modifications were done,



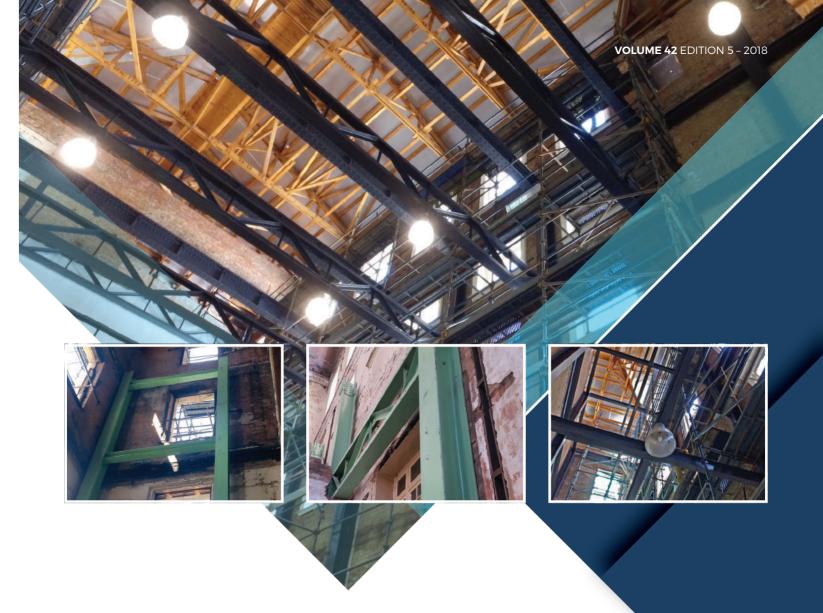
### **PROJECT TEAM**

Nominator - MPW Steel Construction | Client/Developer - City of Johannesburg

Architect - Paradign Architects | Structural Engineer - Asakheni Consulting Engineers | Main Contractor - Inkanyeli

Steelwork Contractor - MPW Steel Construction | Steel Erector - MPW Steel Construction

Photographer (photo competition) - MPW Steel Construction



and in most cases it was an engineering decision to allow existing features to remain. One of our biggest concern was the existing steel structure, which was over 100 years old as well - we couldn't modify them unless we had an instruction from the client who had to give permission.

The brickwork varies quite drastically between levels. Sections were built at different times, so the quality of the brick varied. Every time we drilled chemicals into the brickworks we had consultants come through to ascertain that the product was correct.

What I'm really proud of is that over 100 years ago a contractor completed this job, and now 100 years later we've added a small portion in this building... and hopefully 100 years from now, there will be somebody else, doing renovations here. We've left our mark, the same way the previous steel contractor left his mark."

### **Architect's Comment, James Wylie**

"The building was built in 1897 and the floor added in 1910. It operated as a post office for its entire life span, and was abandoned in the 1990s. There were a number of projects to try and renovate it, starting from the 90s to the present day. Unfortunately, it caught fire in 2009, and thats where we came in. It was imperative to develop this building and give it more life.

The fire was devastating, but it's given us a real opportunity to essentially insert a new building into an old building. We talk about recycling – this is the ultimate recycling of a building and giving it a new life. From a personal perspective – I actually studied this building when I did my thesis, so the project has been very rewarding on a personal level."

### **CITY LOGISTICS**

All structural steel and cladding for the City Logistics was retrofitted to the existing and new steelwork from inside the warehouse, off cherry pickers and scissor lifts. Due to the installation limitations and material handling the sheets were delivered in 4m lengths, all off scissor lifts. Cladding had to span across 78m, in-between sprinkler droppers, lights, electrical cable trays, and at times inbetween the existing lattice trusses.



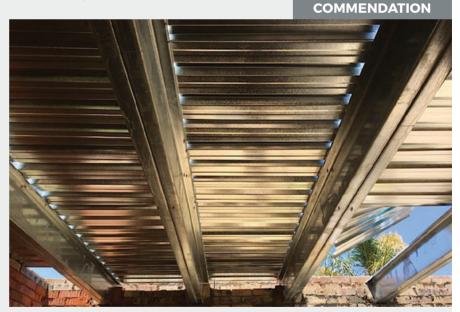
https://www.saisc.co.za/project/city-logistics-ceiling/

### **PROJECT TEAM**

Nominator - Cousins Steel International I Client/ Developer - City Logistics I Architect - RHA
Structural Engineer - Sotiralis Consulting Engineering I Quantity Surveyor & Project Manager - Quantil
Engineer, Main Contractor & Steelwork Contractor & Steel Erector - Cousins Steel International
Cladding Manufacturer - SAFAL I Cladding Supplier - Safintra I Cladding Contractor - Cousins Steel International
Corrosion Protection (galvanizing & paintwork contractor) - Cousins Steel International
Photographer (photo competition) - Cousins Steel International

### MACEDWARDS HOUSE EXTENSION

The Deep Flute Floor System used for McEdwards House Extension is uniquely propless and does not require the use of any cranes in order to be deployed. The floor system is characterized by its steel permanent formwork. The steel acts alone to carry the construction loads – without any support within its span. The team at Aura Entle was confident that they would deliver the completed 100m² floor for MacEdwards house in under three and a half days of site work.



https://www.saisc.co.za/project/macedwards-house-extension/

### **PROJECT TEAM**

Nominator - AURA ENTLE | Client/Developer - FTT@580 (Pty) Ltd | Architect - KTE Trading Enterprise cc Structural Engineer - AIS\_CE Consulting Engineering (Pty) Ltd | Main Contractor - Goldee Trading Steelwork Contractor - AURA ENTLE | Steel Erector - AURA ENTLE Photographer (photo competition) - AURA ENTLE

### **KUSILE POWER STATION ABSORBER STRAKES:**

### SPECIALISED FABRICATION AND TRANSPORTATION PROJECT

The purpose of the Kusile power station: absorber strakes: specialised fabrication and transportation project was to decrease "time to site" as well as "time on site". The project team was able to streamline onsite erection and improve quality of fabrication by manufacturing the absorber strakes in the largest possible assemblies.



https://www.saisc.co.za/project/kusile-power-station-absorber-strakes-specialised-fabricationand-transportation/

### **PROJECT TEAM**

Nominator - GENREC | Client/Developer - GE (at time of project) | Structural Engineer - LSL Consulting Engineering Manager - GENREC | Main Contractor - GENREC | Steelwork Contractor - Burger & Company Steelwork Contractor - Nessa Engineering | Steelwork Contractor - One Steel



www.safalsteel.co.za | 031 782 5500











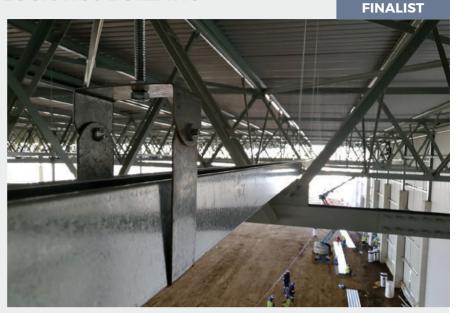






### MERCEDES BENZ J-SITE LOGISTICS BUILDING

The roof cladding to the Mercedes Benz SA Logistics Building in East London is an innovative composite of concealed-fix steel cladding and 60mm fibre rock wool insulation board topped with 2 layers of mineral torch-on plastomeric waterproofing membrane.



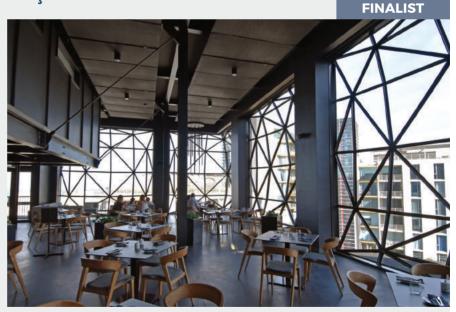
https://www.saisc.co.za/project/mercedes-benz-j-site-logistics-building/

### **PROJECT TEAM**

Nominator - AECOM | Client/Developer - Mercedes-Benz South Africa | Architect - AECOM Structural Engineer - AECOM | Quantity Surveyor - Stefanutti Stocks | Project Manager - AECOM Steelwork Contractor - Impact Engineering | Cladding Manufacturer - Safintra | Cladding Supplier - Safintra Cladding Contractor - Impact Engineering | Corrosion Protection (paintwork contractor) - Insimbi Coatings

### **V&A GRAIN SILO PILLOW FAÇADE**

V&A Grain Silo Pillow Façade project serves as an iconic centrepiece for the Silo District, rejuvenating the Grain Silo in a unique and architecturally pleasing manner. The innovative use of parametric 3D modelling techniques that respected the detailed fabrication considerations for the steelwork assembly enabled the architect and fabricator to achieve the desired geometry.



https://www.saisc.co.za/project/va-grain-silo-complex-facade/

### **PROJECT TEAM**

Nominator - Arup (Pty) Ltd | Client/Developer - V&A Waterfront | Architect - Heatherwick Studio

Structural Engineer (façade steelwork) - Arup (Pty) Ltd | Quantity Surveyor - MLC | Project Manager - Mace

Main Contractor - WBHO | Steelwork Contractor & Erector (pillows, zigzag windows) - Mazor

Steel Contractor & Erector (skylights) - Mazor | Cladding Manufacturer - Mazor | Cladding Supplier - Mazor

Cladding Contractor - Mazor | Photographer (photo competition & other submitted images) - Arup (Pty) Ltd

### NGEZI LOUNGE

The Ngezi Lounge Project is located in the township of Letlhabile, in the North West Province. The Deep Flute is made up of standard light steel components that can be carried and put in place speedily by two people. Simple tools are then used to join everything together to form the complete steel skeleton. Then steel formwork is designed to carry all the construction loads. The steel also serves as a mould for the layer of concrete which forms part of the engineered system. For this project the floor was engineered to safely carry 3kN/m<sup>2</sup> over 6m long spans.



https://www.saisc.co.za/project/ngezi-lounge/

### **PROJECT TEAM**

Nominator - AURA ENTLE | Client/Developer - MDK Business Solutions | Structural Engineer - Arrow Point Engineering

Main Contractor - Ostafoghest (Pty) Ltd | Steelwork Contractor - AURA ENTLE | Steel Erector - AURA ENTLE

Photographer (photo competition) - AURA ENTLE

# IMPORTANT DATES FOR STEEL AWARDS 2019 Cost of entry: R1 650 per project (SAISC Members can enter 2 projects for the price of 1) Nominations Open Judging First Round Final Judging July 2019 July 2019 Steel Awards 2019 Date to be confirmed October 2019 Nominations Close Site Visits For more information on how to nominate a project contact denise@saisc.co.za

### LIGHT STEEL FRAME BUILDING CATEGORY

### WINNER

### GATEWAY WEST - MALL OF AFRICA



Light steel frame building offers a wide range of benefits when compared with conventional building or other framing materials, in terms of quality, cost, durability, and speed of construction. Reduced wastage, lower logistical costs and earlier occupation could offer cost savings of 20% or more, compared with conventional building.

All Steel Awards 2018 projects can also be found on the Steel Awards App and on the SAISC's website: www.saisc.co.za

We encourage you to explore and draw inspiration from the projects on the following pages.

This is a landmark project, albeit small in tonnage terms. It illustrates what can be achieved using LSF!

The spherically curved and twisted façade walls give expression to the architect's design through light steel framing, at a much lower cost than would have been the case had reinforced concrete been used. The rapid assembly and erection shaved weeks off the building programme. It provides a ventilated façade which translates into thermal insulation to the office building interior. The wall panels consist of (from the outside) aluminium cladding, ETICS cladding (60mm thick), vapour permeable membrane, 90mm LSF support structure, Cavity Bat insulation and Fire Stop gypsum board for the internal lining. Key for the success of the project was the meticulous 3-D design to facilitate integration of the curved LSF framework, the window schedules and the structural concrete.

What makes this project special? LSF allowed the designer to create a unique and striking building exterior, like no other. The insulated LSF walling provides excellent insulation which will save electricity for heating and cooling over the design life of the building. It was executed at much lower cost than alternatives, and is said to be maintenance free. It is a prominent reminder on the Waterfall skyline of creative designs. A comment received from the USA sums it up – 'in what galaxy is this building?'

### **PROJECT TEAM**

Nominator - Ohlhorst LBS (Pty) Ltd | Client/Developer - Attacq Property Development

Structural Engineer - HAGE Engineers | Main Contractor - Group 5 | Steelwork Contractor - Ohlhorst LBS (Pty) Ltd

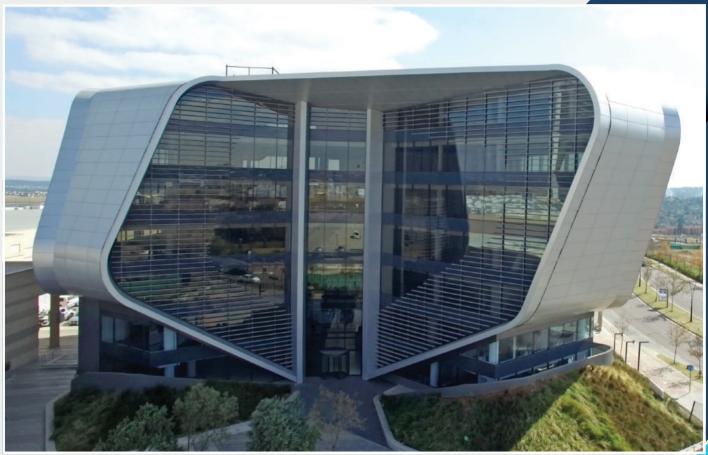
Steel Erector - Ohlhorst LBS (Pty) Ltd | Cladding Manufacturer - Quinton | Cladding Supplier - Quinton

Cladding Contractor - Ohlhorst LBS (Pty) Ltd | Photographer (photo competition) - Ohlhorst LBS (Pty) Ltd









https://www.saisc.co.za/project/rissik-street-post-office/

### **Gateway design**

This iconic building's triple curve-shaped facade was designed as a hybrid steel structure, with the round hollow section frames as the main structural backbone and LSF panelling to provide the cladding base for the etic system.

The curved exterior of this building provides an architectural masterpiece. The imaginative façade panels change shape in 3 ways; bowing, curving and twisting downwards from the roof. Detailed engineering and modelling of the main structural steel structure and light steel frame panels was extremely complex. However, this building demonstrates the versatility of combining traditional steel construction methods with modern steel building technology. No other building material could create this magnificent 'Gateway' into South Africa's leading commercial development.

LSF was also used in interfacing the side facades with windows exactly as per the architectural specifications, while maintaining the engineering strength requirements. Achieving this required real engineering balance.

The versatile etic system provided a weather skin as well as support for the seamless external aluminium envelope.

### **HOUSE LABUS**

House Labus consists of foundations with timber poles and footings, a concrete deck with LSF joist, IBR sheeting with 80mm 25MPA concrete system fitted with a 40mm EPS Polystyrene for additional R Value on insulation. The structure is clad with Marley shiplap FC planks and OSB with Tyvec membrane and ISOVER Cavitybat.

This project was part of rebuilding Knysna after devastating fire damage



**PROJECT TEAM** 

https://www.saisc.co.za/project/labus/

Steel Supplier - Pholaco I Main Contractor - Rancor I Structural Engineering - EMC Engineering

### **HOUSE SCHMIDTZ**

The external cladding of House Schmidtz consists of Envirodeck composite cladding fixed to 20mm steel purlins to create an air cavity and ventilation. The purlins are fixed to 12mm OSB boards protected by a Tyvec membrane, and cavitybat installed in the frame cavities. Internal lining consists of 15mm Marley Gypsum boards with full skim. The panel roof was fitted with two LSF strutting beams to support the spans.

This project was part of rebuilding Knysna after devastating fire damage



https://www.saisc.co.za/project/schmidtz/

### **PROJECT TEAM**

Nominator - Rancor | Steel Supplier - Pholaco | Main Contractor - Rancor | Structural Engineering - EMC Engineering

### **HOUSE PIENAAR**

House Pienaar is a 190m<sup>2</sup> house in Kleinmond, constructed in a mere 12 weeks using Light Steel Frame Building systems.



**PROJECT TEAM** 

https://www.saisc.co.za/project/pienaar/

Nominator - Rancor | Steel supplier - Pholaco | Main contractor - Rancor Structural Engineering - EMC Engineering

### **BOTSWANA LODGE**

Botswana Lodge - a tastefully designed game lodge, with elegantly curved walls, built in a very remote location. LSF provided a significant advantage in terms of logistics to site. The architect was so pleased with the result, that he has used LSF for further lodges in Botswana.

# **FINALIST**

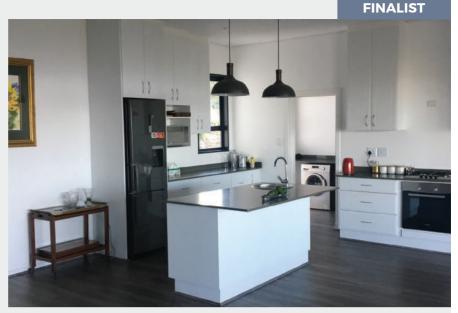
### **PROJECT TEAM**

https://www.saisc.co.za/project/botswana-lodge/

Nominator - Futurecon | Structural Engineer - EMC Squared Engineering | Project Manager - Futurecon Main Contractor - Futurecon | Steelwork Contractor - Futurecon | Steel Erector - Futurecon Cladding Manufacturer - Futurecon | Cladding Supplier - Futurecon | Cladding Contractor - Futurecon Photographer (photo competition) - Futurecon

### **HOUSE WOLHURTER**

House Wolhurter is a 250m² house, with Shera FC planks for external cladding. While the design of the Light Steel Frame house was standard, site access posed some challenges which could be overcome due to the ease of handling LSF.



https://www.saisc.co.za/project/house-wolhurter/

### **PROJECT TEAM**

Nominator - Shospec (Pty) Ltd | Client/Developer - Private | Architect - Equilibrium Architectural Solutions cc Structural Engineer - Martin & Associates | Project Manager - Shospec (Pty) Ltd | Main Contractor - Shospec (Pty) Ltd Steel Erector - Shospec (Pty) Ltd | Cladding Manufacturer (walls) - Shera & CAPCO Cladding Supplier (roof) - Safintra | Cladding Contractor - Four Seasons Industrial Roofing (Pty) Ltd Photographer (other submitted images) - Shospec (Pty) Ltd

### **HOUSE GILSON**

House Gilson - Special LSFB box sections were designed to accommodate the bulky timber trusses as an architectural feature. The rafters' mass was 320kg per truss fitted with special ridge beams. Flooring consisted of light steel frame joist spaced at 300mm with 12mm fibre cement board and structural screed of 90mm. Special sound mats of 50mm thickness were installed between the joists for soundproofing. The joists also allowed for all services to easily run in between the joists.



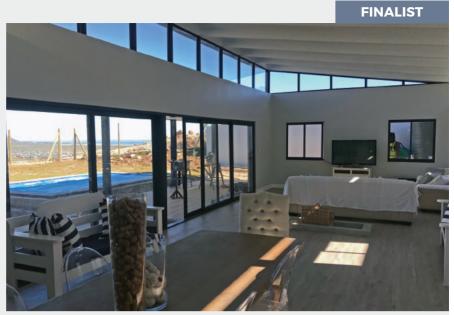
https://www.saisc.co.za/project/gilson/

### **PROJECT TEAM**

Nominator - Rancor I Steel Supplier - Pholaco I Main Contractor - Rancor Structural Engineering - EMC Engineering

### **HOUSE VAN ROOYEN**

House Van Rooyen was originally designed as a brick and mortar house. A Light Steel Frame Building solution was ultimately chosen because of unparalleled benefits in speed of construction. This turnkey LSFB project was completed in only 5 months - 4 months less than the 9 months that would have been required for the original brick and mortar design. Superior insulation and improved thermal efficiency also influenced the client's decision to switch to LSFB.



https://www.saisc.co.za/project/van-rooyen/

### **PROJECT TEAM**

Nominator - Rancor I Steel Supplier - Pholaco I Main Contractor - Rancor Structural Engineering - EMC Engineering

### **HOUSE WILCOX JONES**

The external cladding for House Wilcox Jones consists of Marley FC planks with OSB, Tyvec membrane and ISOVER Cavitybat insulation fitted internally with 15mm Marley Gypsum boards, fully skimmed on the inside. The mezzanine floor carried by LSF joists has a span of 6.5 meters with 15mm FC Boards and special 50mm Genesis sound mats between joists.



https://www.saisc.co.za/project/wilcox-jones/

### **PROJECT TEAM**

Nominator - Rancor I Steel Supplier - Pholaco I Main Contractor - Rancor Structural Engineering - EMC Engineering

### KAAP AGRI BUILDING

Kaap Agri is an excellent example of vertical extension of an office using Light Steel Frame Building. Three types of external cladding namely - FC planks, FC boards, and profiled prepainted steel roof sheeting was used. The client was so satisfied with the project that they've engaged the LSFB contractor for another office project.



https://www.saisc.co.za/project/kaap-agri-building/

**PROJECT TEAM** 

Nominator - Rancor | LSFB Contractor - Rancor

### MEDICLINIC STELLENBOSCH

The Mediclinic Stellenbosch project showcases innovative design using Ultraspan trusses. The hipped roof structure with Dutch gable ends has an area of 4 500m². Unusually shaped inverted Ultra-span roof trusses reduced the depth of the roof above the concrete ringbeam, while making the installation of services easier.



https://www.saisc.co.za/project/mediclinic-stellenbosch/

### **PROJECT TEAM**

Nominator - MiTek | Architect - TV3 | Structural Engineer - Smart Structural Solutions Engineer - MiTek | Designed & Inspection - MiTek

### OLD APOSTOLIC CHURCH ROOF

Nominator - Thlomeso Timbers/MiTek

Client/Developer - Old Apostolic Church

Engineer - MiTek

Quantity Surveyor - Codi Construction

Main Contractor - Watson Construction

Steelwork Contractor - Thomeso Timbers

Steel Erector - Vertex Roofing Contractors



https://www.saisc.co.za/project/old-apostolic-church-roof/

### **SAVANNA CITY**

Client/Developer - Basil Read

Architect - Malankane

Structural Engineer - Malankane

Engineer - Malankane

Steelwork Contractor - Waveroofing

Steel Erector - Waveroofing



https://www.saisc.co.za/project/savanna-city/

### SPECTACLE WAREHOUSE

Nominator - Futurecon

Client/Developer - Real Vision (Pty) Limited

**Architect** - Base Architects

Structural Engineer - BA Consulting Engineers

Engineer - EMC Squared Engineering

**Quantity Surveyor** - Henry Riley

Project Manager, Main Contractor, Steelwork Contractor,

Steel Erector & Cladding Contractor - Futurecon

Cladding Manufacturer - Global Roof Solutions and UFCC

**Photographer (photo competition)** - Futurecon

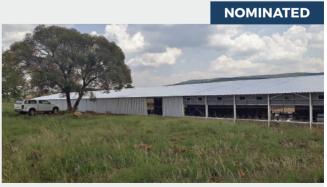


https://www.saisc.co.za/project/spectacle-warehouse/

### **HOENDERHOK (LIGHT POULTREY HOUSE)**

Nominator - Siteform

Main Contractor - SS Silo Konstruksie



https://www.saisc.co.za/project/hoenderhok-light-poultry-house/

### PRE-EMINENCE STUDIO

Nominator - Futurecon

Client/Developer - Ramgoolam and Associates

**Architect - Osmond Lange Architects and Planners** 

Structural Engineer - EMC Engineering

Steelwork Contractor - Futurecon

Steel Erector - Futurecon

Cladding Manufacturer - Futurecon

Cladding Supplier - Futurecon

**Cladding Contractor - Futurecon** 

Photographer (photo competition) - Futurecon



https://www.saisc.co.za/project/pre-eminence-studio/

### LIBERTAS OFFICE PARK

Client/Developer - LYNX-RE

Architect - SNA Architects

Structural Engineer - Maxspan

Engineer - DG Consulting Engineers

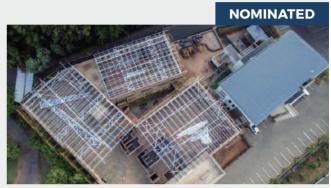
Quantity Surveyor - Matla QS

Project Manager - J.C Van der Linde & Venter Projects

Steelwork Contractor & Erector - Ecostrut

Cladding Manufacturer & Supplier - Safintra

**Cladding Contractor - Ecostrut** 



https://www.saisc.co.za/project/libertas-office-park/

### LIMPOPO MALL

Nominator - Martek Roofing

Client/Developer - Nitruco

**Architect** - Piet Tempel & Associates

Structural Engineer - Enducon

Main Contractor - Nitruco

Steelwork Contractor - Martek Roofing

**Steel Erector** - Martek Roofing

**Cladding Supplier - Select Projects** 

**Cladding Contractor** - Select Projects

Photographer (photo competition) - Sakkie Maritz

## NOMINATED

https://www.saisc.co.za/project/limpopo-mall-pick-n-pay-entrance/

### MINTEK GATE HOUSE REFURBISHMENT

Nominator - SMC Africa

Client/Developer - Mintek

Architect - PGA Architects

Structural Engineer - The Structural Workshop

Main Contractor - SMC Africa

Steelwork Contractor - SMC Africa

Steel Erector - SMC Africa

Cladding Manufacturer - Marley - Etex

**Cladding Supplier** - Marley - Etex

Cladding Contractor - SMC Africa



https://www.saisc.co.za/project/mintek-gate-house-refurbishment/

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- Macsteel Special Steels
- Macsteel Tube & Pipe
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- Macsteel VRN

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De-Fence fencing has been installed around the perimeter of Pirates Sports Club, Durbanville Hills Winery, Dikololo Game Reserve, Magalies Park, The Wilds Municipal Nature Reserve, Tsogo Sun Hotel P.E. and many more well-known destinations throughout South Africa, Mozambique, Botswana, Namibia and Lesotho. NJR Steel Fencing also manufacture cantilever gates, sliding gates, pedestrian gates and security gates using the same De-Fence panels, creating a uniform look and feel.

Whether you are a property developer, contractor, installer or DIY enthusiast, please contact John Dixon on +27 11 732 1511 or e-mail de-fencesales@njrsteel.co.za for more information.

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The combination of a well renowned company of 100 years, plus an extensive range of excellent quality products, a nationwide branch network and motivated, well-trained staff, leaves Stewarts and Lloyds well poised to conduct business for many years to come.

The group operates 32 branches throughout Southern Africa having started in Kimberley,

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Our markets include and general engineering, mining, rural water, chemical, petro-chemical, automotive, agriculture, water reticulation, building and construction, fire protection and local authorities. Retail outlets at each branch sell a range of pumps, generators, wire, valves, irrigation, fencing, and industrial hardware.

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In celebrating its centenary, the company, now privately owned, having been purchased by Stockwell from Barloworld in 2002, is pleased to announce good growth in all products in the extensive range.

### STEEL AWARDS 2019

### PROJECT NOMINATIONS FOR STEEL AWARDS 2019 OPEN ON 1 NOVEMBER 2018

If the steelwork for your project was completed in 2017, then your project is eligible!

Any project team member can nominate a project. **DON'T DELAY!** Be an early bird and get your nomination in as soon as possible.

For more information, contact

Denise Sherman – denise@saisc.co.za



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