

# steel CONSTRUCTION

OFFICIAL JOURNAL OF THE SOUTHERN AFRICAN INSTITUTE OF STEEL CONSTRUCTION

Volume 41 No. 2 2017



**STRUCTURAL HOLLOW SECTIONS**  
**FROM AN ENGINEERS PERSPECTIVE: WHAT SIZE SHOULD I USE?**

**TRENDS IN STEEL:**  
Report back on the African Business and Investment Forum in Algiers



# STEEL FABRICATORS MAKE MONEY WITH PEDDINGHAUS TECHNOLOGY

*"The speed of the Advantage-2 drill line is fantastic. It's quick, accurate and has good repeatability. We like putting steel through it as quick as we can knowing how efficient it is, which is critical for the success of our business."*

**Lawrence Bartlett - Group Managing Director**  
**Steel Services & Allied Industries**  
**Carltonville, Gauteng - South Africa**



 **Steel Services**  
AND ALLIED INDUSTRIES

**Kevin Redpath**  
Automation Manager

**Lawrence Bartlett**  
Group Managing Director



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## editor's note

**T**his issue is a bit of a bittersweet one for me. It marks the 1 year anniversary of my 1st edition as Editor of Steel Construction (which, in case you are wondering, is the "sweet" part). It also, unfortunately, marks the exit of a dear friend and mentor.

After 10 years of dedicated service to the SAISC, Marlé Lötter, our events manager, has decided to move on. Marlé has worked feverishly behind the scenes of all the SAISC's events over the last decade. If you've attended Steel Awards, then you have witnessed the results of Marlé's tireless efforts. Even though we're sad to see her go, we're grateful for all the time and energy she has invested in serving our members. We wish her all the best.

We have some fantastic entries in for Steel Awards 2017. Be sure to keep an eye out for our next edition of the journal, where we'll give you a sneak peak into the great work our members have done during 2016.

Our Annual Golf Day is scheduled for the 17th of May, and is already fully booked! If you'd like to attend the networking/prizegiving dinner there are still places available. We also have a number of sponsorship slots available, so get in contact if you would like to see your brand represented! While our player slots are full, we do have some sponsorship opportunities available. The prizegiving dinner is also a great networking opportunity.



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# A few **green shoots** on the **HORIZON**



By Paolo Trinchero, Chief Executive Officer, SAISC

So far this year has got off to a slow start. Projects are few and far between and tender competition is fierce. There are currently initiatives underway where various steel sectors are pulling together to focus on improving the steel supply chain. The main focus areas are in steel construction, tubing and piping, and roofing and cladding. We will keep you informed but will appreciate your comments and concerns from time to time.

I am not going to reflect further on challenges, tariffs and or designation as these are ongoing projects where it is going to take time before we see results in the downstream sector.

The SAISC will keep lobbying for more steel projects and incentives to encourage companies to invest in manufacturing locally. As an industry we must persevere and not get discouraged as there are a few green shoots on the horizon.

From a project point of view, a few projects and initiatives were highlighted in the budget speech in February. We seem to have an NDP light which will at least keep some of the industry busy.

- The independent power producer programme will hopefully get back off the ground and will include gas investment opportunities.
- R4.2 billion has been allocated for industrial infrastructure in special economic zones and industrial parks.
- R18.4 billion has been allocated to the Regional Bulk Infrastructure Grant and R12.5 billion to the Water Services Infrastructure Grant.
- All our metropolitan municipalities are undertaking a portfolio of catalytic, integrated urban development projects that will lead the way in reshaping our cities.

Larger projects are few but we expect continued investment from Eskom and Transnet. The Mtentu and Msikaba bridges may get underway this year and the BMW and Gibela projects are in progress. Amanuel and Neels will tell you, that as a result of some of their more recent trips, they are enthusiastic about opportunities north of our border. We have so much to offer as an established steel industry and as an institute.

I attended a university advisory board meeting last week, and it is very apparent that our universities have made good progress on research. One project in particular an MSC Report titled "Office Cost Study: A Cost Comparison Study for a Typical Low-rise Office Building within the South African Construction Industry." (University of Stellenbosch, Michael Drennan Candidate and Dr Hennie de Clercq Supervisor) deserves a special mention. We now have an independent study which proves that with some innovation steel construction can compete with traditional concrete in South Africa.

On attending a university advisory board meeting last week and it just hits you in the face that our universities have to contend with massive increases in student numbers, declining funding and insufficient staff to provide a quality education. I would like to encourage our members to not only make provision for bursaries but to consider funding the institutions in some way so that they can provide the quality of graduates we need. This is an ongoing problem and we will all need to look for creative solutions.

“We now have an  
**INDEPENDENT**  
study which **proves**  
that with some  
**INNOVATION**  
steel construction can  
**compete** with  
traditional **concrete**  
in South Africa.”



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# SPIRAL ENGINEERING

**What Colin Kirkland from Spiral Engineering values most about the Southern African Institute of Steel Construction:**

What I value most is the networking, the input and the camaraderie of people in our industry all working toward a common goal and trying to grow the industry within a predominantly concrete based building thinking in South Africa. I value the amount of work the SAISC puts in in trying to grow the use of Steel. We are doing things today in Steel that I don't think would even have been thought of in the 90s. It was all concrete structures and maybe small facades. Now you have major facades, and major structures going up in steel.

Something else I value highly is the exposure the SAISC gives the industry through Steel Awards. It showcases to the rest of the professional engineers and architects what can be done in Steel. We've been involved with the awards for many years, and you can see the progression in the use of Structural Steel and specifically in the architectural side.



## A KEY FACTOR IN SPIRAL'S SUCCESS STORY IS THE WILLINGNESS OF ITS TEAM TO ENGAGE WITH AND ADAPT TO THE NEEDS OF ITS CLIENTS.



SAISC member, Spiral Engineering is a construction company based in Johannesburg and operates throughout South Africa and neighbouring countries.

Spiral was established 27 years ago, in 1990, from humble beginnings. "We took over a small workshop, no bigger than a double garage," says Colin Kirkland, Managing Director of Spiral "now, we now employ 120 plus people".

Initially the company specialised in spiral staircases and balustrades but soon identified the need to diversify. "We grew and started taking on more structural steel projects, mostly architectural structural steel, predominantly tubular. The sort of structures that most other people really avoid, that's the stuff that we thrive on" asserts Kirkland.

Spiral's involvement with commercial developments started with Southgate Mall, followed by Northgate Mall, Cresta, Fourways and many more. The company has managed to expand while firmly maintaining a dominant market position

in their initial area of specialisation. "Most, if not all of the spiral staircases in the Sandton Precinct have been done by Spiral Engineering" Kirkland confirms with pride.

It's no secret that market conditions in the industry have been challenging for an extended period. Kirkland explains that in order to mitigate this, Spiral modified their business to effectively serve different market segments. "We are diversified in that we have 3 workshops: structural steel, stairs and balustrades, and lastly the stainless steel workshop. When the one is quiet, the other is busy. There's always a bit of movement between the different divisions, which enables us to be adaptable" says Kirkland.

A key factor in Spiral's success story is the willingness of its team to engage with and adapt to the needs of its clients. "It's not easy, but what's important is getting out there and speaking to your clients, understanding what their requirements are and trying to fulfil their needs" says Kirkland.

A current expansion avenue for Spiral is green building, which Kirkland sees as a future focus area. "We've started incorporating stainless steel green walling into the architectural steelwork side. It's a great opportunity to work with landscape architects and bring the green element into steelwork. I think that's going to bring another dimension and more work into the steel industry" says Kirkland.

Kirkland finds satisfaction in completing complex jobs well. "The day to day running of a business is challenging, but at the end of the day, the job is completed, the client is happy, and in 10 years you can come back and see what you've done - that's what really excites me" says Kirkland.

When asked about what the future holds for Spiral, Kirkland expressed confidence in his team and their solution seeking work ethic. He attributes their steady growth to innovative manufacturing techniques, dedication, emphasis on detail as well as continuous training and development of staff. "I've been involved with the business from day one, and I take a personal interest in every project we do. One of the main sayings we have when we're looking at a job is 'Let's look for reasons to do the job' as opposed to why not to do the job. Everybody in the company has that mindset. It sometimes bites us because we end up doing some really complicated stuff. It's been quite rewarding because what we have done has been our marketing. "People see our work and when they've got something special or more complicated they turn to Spiral Engineering" concludes Kirkland.



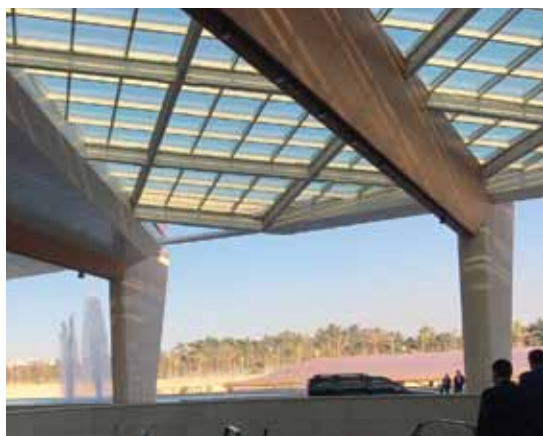


# Algerian and South African Steel

By Amanuel Gebremeskel,  
Technical Director SAISC

Collaboration between the Institute and Algerian counterparts could form the basis for emergence of an entire generation of African steel designers, products and standards.





Algeria is an upper middle income country that is confidently emerging from a few decades of political instability and relative economic isolation. It is rich in oil and gas and happens to be the largest country in Africa. The SAISC attended the African Business and Investment Forum in Algiers in December of 2016 in order to witness this emergence first hand. The representatives of South African business who travelled to Algeria all came back with a great deal of enthusiasm to pursue opportunities in every conceivable sector.

While mining, energy, agriculture and tourism dominated discussions I found the opportunities in the steel industry to be most intriguing. Algeria is in the process of revamping its steel industry. In some ways Algeria is like South Africa. It has large iron ore deposits and mature primary steel producers. Moreover it has manufacturing and beneficiation capacity but increasingly relies on Asian and European imports.

More recently, however, the country is investing heavily in modern steel mills and downstream manufacturers. The Bellara Steel complex, a new joint venture between government owned Sider and Qatar Steel

will soon start producing over 3 million tonnes of steel with an investment of R26 Billion. Since the collapse of commodity prices in 2015 Algeria is essentially attempting to diversify its economy away from oil and gas.

This is where South Africa's expertise can be best utilized. South African industry, along with intelligent government policy, has navigated a tricky road away from over-reliance on commodity. Much has been achieved in terms of creating employment especially in the service sector. Seeing that it sits in a region of youth upheavals such employment is of paramount importance to Algeria.

Maybe more importantly South African companies, from our steel marketers and fabricators to those who make cars, agricultural pivots and windmills, are internationally competitive. This is the kind of experience that Algeria will seek to emulate in order to develop the downstream industry for Bellara. Algeria has cheap energy and a relatively large population. It also sits in close proximity to a large EU market to the north and an exploding West African market to its south. Thus collaboration with South African

companies involved in manufacturing can yield significant returns.

Tied to this there is the issue of developing technical competence to maintain internationally acceptable product and design standards while pursuing new markets for steel. Such capacity is typically housed in a few steel institutes such as the SAISC.

Over the past decade our Institute has created entirely new markets for steel in housing construction and continues to explore high-rise construction. Collaboration between the Institute and Algerian counterparts could form the basis for emergence of an entire generation of African steel designers, products and standards.

The reinvigorated Algerian steel industry will form the basis for the country's attempt to replace imported capital goods with African manufactured versions. South Africa has much knowledge and experience to share in this arena. It was encouraging to see that the Algerian government and businesses are keen to work with us. Now we have to accept the invitation and find creative ways to link the two ends of our continent.

## PROJECT TEAM

**Client / Owner / Developer:**

Old Mutual Property

**Architects:**

Impendulo Design Architects

**Structural Engineer:**

Consultauri Design (Pty) Ltd

**Structural Engineer:**

Ndodana Consulting Engineers (Pty) Ltd

**Quantity Surveyor:**

Aecom SA (Pty) Ltd

**Main Contractor:**

Trencon Construction (Pty) Ltd

**Steelwork Contractor:**

Spiral Engineering cc

**Structural Steel Detailer / Detailing**
**Company:**

Spiral Engineering cc

**Painting:**

Tasene Painters

## KPMG TREE STRUCTURE

The project involved extensions to the existing KPMG campus in Parktown. The building is characterized by a light-filled internal street space. The space was ideal to use a dendriform (treelike column or branching structure). The concept of fractals and none Euclidean geometry was used as inspiration source for the architectural solution for the street space. Adopting structural functionality of trees in a minimalistic way. The interior architecture of the internal street space also created concrete 'bird nest' balconies among the trees.

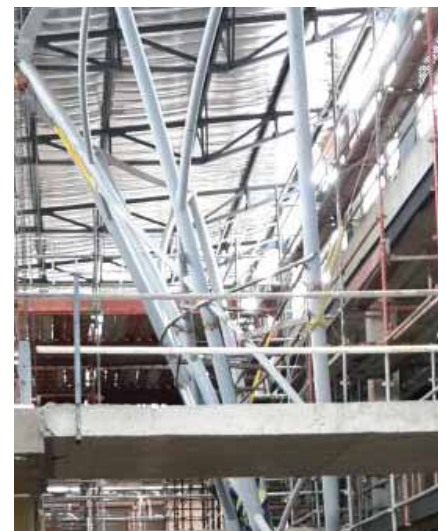
The imitation of the complex and almost inexpressible appearances of vegetal shapes has become possible, in new effortless ways, by using digitally advanced computational processes and simple mathematical algorithms. The only material capable on creating these complexed designs is tubular steel.

Spiral was approached to design and fabricate 2 x feature trees which would welcome guests in the atrium of the new KPMG phase 3 extensions. The feature trees each boasting near 14 metres in height would span and curve in 3 different planes to achieve the desired effect. The tubing members ranging in size would all intertwine and mould together in a continuous flow to give the tree depth and height as the building structure would work its way around the trees all the way to the top floor for KPMG employees to have a constant view of the steel at all times. Due to the unorthodox radius flow of connections encompassing various

tube sizes would pose a challenge in both fabrication and installation. Both trees were fabricated as a whole and disassembled in order to manoeuvre the trees into a tight space on site. Once there, the process of erection on site commenced being wary of the quality required for this job. Attention to detail and highly skilled on site welding achieved the final product with minimal snags on site as well as completing on time and on budget. They now stand proud as a classic example of Spiral quality and craftsmanship for difficult and complex structures.

The challenges that faced us on this project was the usual shape and radii of the tubular members increasing in radius over 14m height. The size of both trees and the working area on site with different tube sizes meant that we had to separate each tree into 3 pieces and put them back together on site. This posed an interesting problem as each tube of different sizes would have to maintain its shape and be re-assembled the same way on site considering the changing radii. With careful erection, each tree would be erected from ground up and on-site adjustment would be made continuously to maintain the shape of the tree. Once this was done, on site welding and preparation was key to achieve flawless joints giving the tree a continuous and natural look.

What makes the project special is the unusual shape and height of the tree and the particular jointing to be done in a tight space on site. A great building team ensured the product was completed on time and on budget.







## PROJECT TEAM

### Client / Owner / Developer:

Maximix (Pty) Ltd

### Architect:

Krynau Nel Associates

### Structural Engineer:

Fellows Consulting

### Quantity Surveyor:

ETHIQS Quantity Surveyors

### Project Manager:

Harrison Project Management

### Project Management and Technical

#### Structural Steel:

Intergrated Site Control

### Main Contractor:

Gothic Construction (Pty) Ltd

### Steelwork Contractor:

Spiral Engineering

### Balustrades Contractor:

A&D Services (Pty) Ltd

### Steelworks Contractory Nursery Columns:

RSB Contracts cc

### Structural Steel Detailer / Detailing

#### Company:

KRU Detailing

### Cladding Supplier:

Pinnacle Cladding

### Painting:

Tasene Painters

## WATERFALL WILDS

The project consisted of construction of a new retail centre comprising 1 250 sqm basement and 2 635 sqm ground floor retail and associated siteworks.

The architects comment: "Can I make a building where there is virtually no exterior of the building visible but the interior presents as large, imposing and memorable?"

Sitting on the Jukskei River with great river views and a wetlands area forming part of the green belt, a building was needed that would sit in the greenbelt but not further impose on or reduce the greenbelt. With 3 hefty neighbours on the other street corners there was a reason not to compete and rather opt out by making a understated building as inconspicuous as possible.

A compromised site, lower than the road, resulted in incredibly complex curved and twisted shapes. The building had to flex through various angles to maximise parking and outdoor restraints of a prestigious outdoor nursery and planting area.

Steel was the obvious answer as with the double column system, the direction changes could be accommodated without losing visual cohesion. The inner tubular skeletal spine with diagonal rafters fully welded generally all white interior in a single volume presents itself as a sophisticated, steel design in stark contrast to the external shed appearance. As the architect aptly puts it "Cocoon Space".

To deal with the site slopes a singular wallplate height was set and the steps to the various floor levels with varying column heights. Steel was used to both achieve the desired design effect as well as enabling a fast enclosure of the structures. Allowing for a fast track programme and construction period.

The spine of the structure, which is fully welded through the length of the building, was custom built to suit an array of specialist and respected tenants. This was all achieved within a very tight budget. Programme restraints of a traditional retail development make this project stand out as something special, which could only be achieved through the use of steel as a building medium.





## PROJECT TEAM

### Client / Owner / Developer:

Atterbury Waterfall Investment Company (Pty) Ltd

### Architect:

Margoles Dukes & Smith Architecture

### Structural Engineer:

Novum Holding LLC (South Africa)

### Quantity Surveyor:

Norval Wentzel Steinberg (Pty) Ltd

### Project Manager:

GHC Africa Project Management (Pty) Ltd

### Main Contractor:

Mall of Africa JV – WBHO / Group Five

### Steelwork Contractor:

Novum Holding LLC (South Africa)

### Steelwork Contractor:

Tass Engineering (Pty) Ltd

### Structural Steel Detailer / Detailing

#### Company:

Novum Holding LLC (South Africa)

### Cladding Supplier:

Novum Holding LLC (South Africa)

### Painting:

Hendor Corrosion Protection Services

### Erectors:

Tass Engineering (Pty) Ltd and  
Universal Steel Construction (Pty) Ltd

## MALL OF AFRICA CENTRAL SKYLIGHT

The Mall of Africa is a 131 000m<sup>2</sup> development and is currently South Africa's biggest single-phase shopping mall development. The central skylight is located at the heart of the mall and consists of 4 420m<sup>2</sup> of ETFE air-filled pillow (AFP) cladding supported by a Novum free form (FF-System) steel grid. The structure is 170m long in the North South direction and varies in width from approximately 12m to 50m (in the central portion).

The complex free form steel grid was achieved through the use of 1357no. unique painted hollow steel sections which were bolted together to 507no. custom machined steel nodes. Each steel beam had steel casting that were shop welded onto each edge that assist in creating this geometry.

Due to the length of the structure, the skylight was divided at the building expansion joints into three structurally isolated portions. In each section, the steelwork transferred load via bending and arching action into the perimeter concrete parapet (designed by Aurecon). Due to the large spans in the central region, four tree columns were introduced to ensure all the roof steelwork could have the same outer dimensions.

Steelwork was selected for this skylight due to its high strength to weight ratio and the ability to shop fabricate all the components so they could be bolted together in the field.

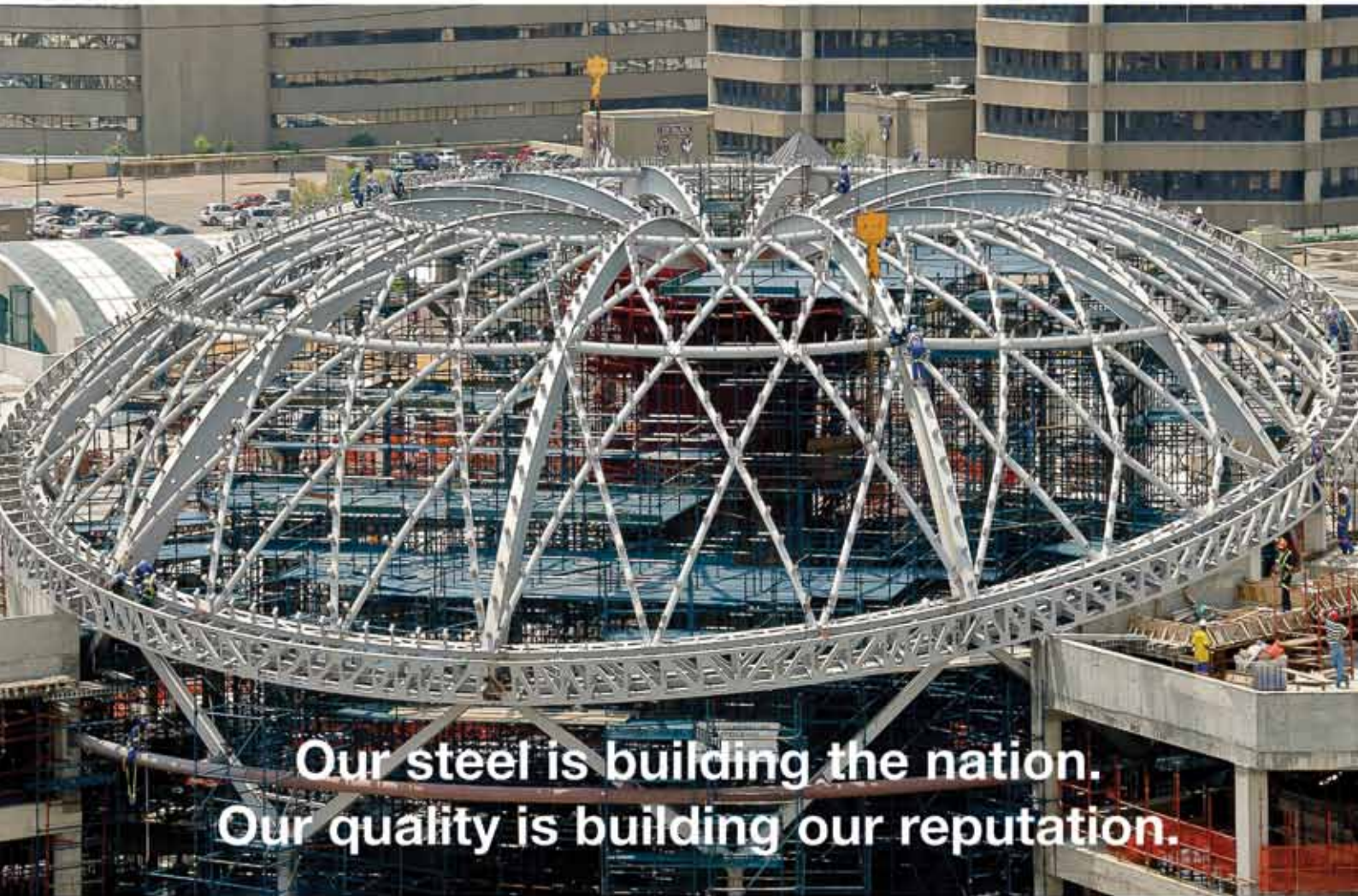
Hollow rectangular tubular sections were used for architectural, detailing and structural reactions. Hollow sections





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- BMW New Facilities Body in White (650t) – BMW SA
- Natalspruit Hospital: Bridge, Doctors and Nurses Accomodation (250t) - Department of Infrastructure and Development
- Government Printing Works (350t)
- Discovery Sandton (500t) – Zenprop
- Integrated Rapid Public Transport Network (200t) – Ekurhuleni Metropolitan Council
- Benmore Gardens Shopping Centre Refurbishment (150t)
- Golden Era Can Line Plant (525t) – Golden Era Group
- EPX Warehouse (225t) – EPX
- Fourways Mall Roof Structure (60t) – Fourways Precinct
- Discovery Corporate Offices Sandton, Skylight Roof (50t) - Growthpoint Properties
- Fourways Mall Link Bridges, Ramps, Lift Shaft, Infill Slabs and Roof – (250t) Fourways Precinct



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enabled the project team to use hidden bolted connections which also served as a means to hide lighting conduit. Rectangular tubes were used due for their good torsional resistance, high strong axis bending capacity and short weak axis dimension – this helped to reduce the size of the nodes at connection points.

Field welding was only required at the perimeter of the skylight (for tolerance reasons), so the vast majority of the connections were bolted together using a calibrated torque wrench and a custom made chain drive. This not only reduced the installation duration, it also ensured the geometry of the skylight would not change during installation. This is very important as not only is all the cladding is pre-made based on this geometry, but if the form of the skylight changed during installation, it could change the stress distribution within the grid shell.

From the architects original design intent, it is important that the geometry of the skylight undulated in both plan and section view. Between MDS and Novum they explored numerous grid and surface options before the final grid was selected.

ETFE cladding was selected as it enable the use of a large triangulated grid as well as provided the desired thermal and visual performance properties. A mixture of two layer clear/printed and opaque white ETFE pillows were selected and distributed over the skylight to avoid glare at the shopfront, while still letting in sufficient light into the space. The pressure in these pillows is maintained by three air machines located on the roof, adjacent to the skylight, and through hundreds of meters of flexible airlines.

The steelwork required for this project was fabricated both internationally and locally and required a high degree of precision. In addition, due to the large number of unique components (some of which appeared to be very similar), the logistical requirements of making, transporting, sorting and correctly installing all these components required special attention from the site and project management teams.

The steelwork was installed using a combination of a small self-erecting crane and an 8 tonne mobile crane. Due to weight limitations, the steelwork was installed in small “spider” sections consisting of a few beams bolted to a node. A series of shoring towers were erected to provide temporary support. Due to the open span of the central portion of the skylight (approximately 52m x 51m) this section was the most difficult and time consuming to install. This was further complicated by site limitations restricting use of cranes, so tubes needed to be installed by hoisting from the partially installed frame.

To accommodate the tight installation tolerance, the elevations of numerous nodal points needed to be continuously check as the structure was installed from one end to the next. If this was not done, the support node on the far end of the structure would not be correctly aligned over the perimeter embed plate.

The steelwork was installed by a fully local crew and the ETFE was installed by a local team with some assistance from one of Novum’s UK based ETFE supervisors. Netting was used for the installation of the ETFE pillows.





## PROJECT TEAM

**Client / Owner / Developer:**  
Redefine and Vukile Property Fund

**Architect:**  
MDS

**Structural Engineer:**  
Sutherland

**Quantity Surveyor:**  
NWS

**Project Manager:**  
SIP

**Main Contractor:**  
NMC

**Steelwork Contractor:**  
Cadcon

**Structural Steel Detailer / Detailing**

**Company:**  
DN Design

**Paintwork:**  
Dram Industrial Painters

## EAST RAND MALL TORNADO

This project formed part of the redevelopment of East Rand Mall. The “Tornado” is an architectural feature rolled and fabricated from 76mm diameter circular hollow sections. Tubular steel was chosen for this project because it was the only material that could be shaped and rolled to provide the final product required by the client.

Special considerations for this project included 3D modelling in segments, fabricating in segments big enough to transport and join on site. Segments were site welded into position and all joints were ground flush on site. No bolts were used, only sleeves.

A mock-up of the complete unit was built in factory. The structure was then taken

down in segments and re-fit and welded onsite. The original radius was closer, but was increased to save on overall lengths of pipe used (approximately 600m of pipe in the Tornado).

What makes this project special is that there was no equipment available to roll and shape a spiral. Segments were shaped using different radius pipes, turned at joints.





## GREENACRES SHOPPING CENTRE ENTRANCE CANOPY

The main roof of the canopy is steel system of girders and trusses. The feature support system is meant to resemble a tree and was fabricated from circular hollow section which reduces several times in the length of the branches. Glass curtain wall supports were provided through rectangular hollow sections.

Steel was fabricated off site and installed, reducing construction time. The circular hollow sections were an architectural requirement to resemble a tree. Providing a structural support that mimics a tree provided some analysis challenges.

The design of the tree proved to be quite challenging, since the branches were not a

uniform cross section, but reduced several times. During a full penetration weld had to be achieved during fabrication. This did not happen on the first tree and structural stiffeners were added on as a temporary measure. The shape of the branch cross section went through several revisions before settling on circular hollow section.

What makes this project special is the innovative architectural design coupled with the advanced analysis required to achieve fulfilment of the client's vision.

### PROJECT TEAM

**Client / Owner / Developer:**

Growthpoint Properties

**Architect:**

SVA International Architects (Pty) Ltd

**Structural Engineer:**

Hatch Africa (Pty) Ltd

**Quantity Surveyor:**

Norval Wentzel Steinberg Quantity Surveyors

**Project Manager:**

MDSA Project Management (Pty) Ltd

**Main Contractor:**

WBHO

**Steelwork Contractor:**

Uitenhage Super Steel

**Structural Steel Detailer / Detailing**

**Company:**

Mondo Cané







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## PROJECT TEAM

### Client / Owner / Developer:

Economic Development Unit, Ethekwini Municipality

### Architect:

Architecture Department, Ethekwini Municipality

### Structural Engineer:

Architecture Department, Ethekwini Municipality

### Quantity Surveyor:

Architecture Department, Ethekwini Municipality

### Project Manager:

Architecture Department, Ethekwini Municipality

### Main Contractor:

Junev Construction

### Steelwork Contractor:

STS Steel Projects

### Structural Steel Detailer / Detailing

#### Company:

Scott Mac Millan

### Cladding Supplier:

Junev Construction

### Electrical Engineer:

Architecture Department, Ethekwini Municipality

## HAMMARSDALE TRADER'S CONTAINER SHELTER

The project is part of the Hammarsdale Public Realm Upgrade, which is a three-phased project to improve facilities for commuters and informal traders within the commercial Town Centre of Hammarsdale. Phase One consists of new trading shelters for those who are currently trading from containers.

The shelters consist of a series of over-sailing roofs over platforms which house the new, fully fitted converted shipping containers. Each container is equipped with electricity, plumbing, display shelving and, depending on the retail activity, with gas burners and sinks. Seating areas are provided outside each container for traders and their patrons. The structure is a three-dimensional space frame canopy with central supports at 12 metre centres.

Tubular sections were used for their torsional resistance, structural strength and to meet the architectural design concept. The design concept was "Tree Architecture" and the structural elements were designed to resemble a tree with the tapered concrete column base as the tree trunk base, the circular hollow section steel column continuing as the trunk, the circular hollow section steel struts/portals as the branches and the roof resembling the tree canopy.

Once all the members were fabricated a full mock-up of the structure was assembled in the fabricator's workshop to ensure that the structure met the architectural and structural concept. Once

accepted the mock-up was dismantled and members transported to site and erection completed.

One of the major challenges was the steep site which sloped in two directions forming part of the road reserve as well as the multitude of electrical and telecommunication services running below the site. Most of the services were unknown to the respective service providers so the contractor had to carefully excavate proving trenches to expose the services and protect them from damage during construction. Drawings were subsequently prepared to map the services. Additional manholes and cable sleeves were provided to protect and provide access to the services post construction.





# TUBULAR PLANT HIRE AIMS HIGH WITH GOSCOR ACCESS RENTAL

The modern fleet maintained by Goscor Access Rental, combined with its high availability and uptime, has resulted in Tubular Plant Hire enjoying an important rental relationship with the company since April 2013.

Tubular Plant Hire is a division of Tubular Technical Construction, wholly-owned by Tubular Holdings, the driving force behind a diversified group, representing one of the largest and most respected privately-owned construction companies in South Africa at present.

To date, the company has utilised Goscor Access Rental products successfully at the Kalagadi Manganese Mine in the Northern Cape, and at the Kusile Power Station in Mpumalanga.

“Our focus, both abroad and within the local marketplace, is aimed predominantly at the manufacturing and construction sectors. The group, together with its competent, motivated management teams, is responsible for an array of specialist services,” Craig Schneiderman, Tubular Holdings, Group Procurement Manager, comments.

These services focus on mining processes, planning management and execution of turnkey projects, and the supply, installation, and commissioning of electrical and instrumentation infrastructure.

“Our rental relationship with Goscor Access Rental focuses mainly on the hire of telehandlers and cherry pickers,” Schneiderman explains. This relationship was established as long ago as April 2013, with the hire of two cherry pickers, namely a Genie S85 RT and a Z135 RT.

Schneiderman cites the main benefit of standardising on Goscor Access Rental equipment for its rental needs as the company maintains a modern fleet, ensuring it has the latest technology on hand. This also means that the machines are replaced constantly, and therefore are virtually brand-new. This translates into high availability and uptime, which is critical for increased productivity.

“What sets Goscor Access Rental apart is also that it is able to provide comprehensive service and support across its countrywide footprint. In addition, we enjoy a good



relationship with the senior management, which is always available to offer any assistance or advice. The company also has fully-trained and skilled technicians on hand to facilitate any repairs or maintenance,” Schneiderman elaborates.

“I salute my team for always going the extra mile and exceeding customer expectations, as amply demonstrated with Tubular Plant Hire. The years of 24-7-365 from every team member has resulted in such successful partnerships, and we look forward to growing this fruitful

relationship,” Andrew Kendrick, Managing Director, Goscor Access Rental, comments.

Commenting on the current state of the mining and construction industries, Schneiderman is confident that tenders for major projects will begin to see the light of day from July this year.

“There is significant potential for actual work in the pipeline, which means the market will be busy again by year-end. There is a much more positive outlook at the moment than there has been for the past two years,” Schneiderman concludes.



# CHINESE ECONOMY SLOWDOWN

## Decreasing Demand

By Kyle Mason, Field credit analyst, Coface



Depressed growth figures in key market segments (manufacturing, mining and construction), combined with limited infrastructure-related investments and reduced housing development have all negatively affected the steel industry.

According to forecasts from the World Steel Association (WSA), global steel markets are expected to remain constrained in the short-term as a sustained slowdown of the Chinese economy, political instability in many developing countries and unsettled financial markets continue to result in decreased demand.

World crude steel production reached 1.621 million tonnes (Mt) in 2015, down 2.9% compared to 2014. In 2015, China accounted for 44.8% of the global market for steel (by volume) compared to 45.9% in 2014. The excess supply from China has led to the governments of the other primary steel producing countries providing assistance in the form of import protection to ensure the survival of their local steel industries.

Data from WSA indicates that steel use remained stable in 2016 at 1 501 million tonnes following a contraction of -3.0% in 2015, with minor growth of 0.5% expected for 2017. Unfortunately with steel use at these levels, the global oversupply of steel remains above 100 million tonnes per annum. This is approximately three times

more than the entire African continent's consumption in 2015.

Demand for steel in developed economies is expected to display an increase of 0.2% in 2016 and projections suggest that this will rise by a further 1.1% in 2017. This has been led by the recovery in the EU's steel demand, which appears to have remained on track despite heightened uncertainties following the UK referendum on Brexit.

Meanwhile, the UK's steel demand is expected to reduce due to the referendum result, the full extent of this decision is difficult to predict. The full impact of Brexit will have to be measured over the longer term.

Steel demand in the US appears to be struggling at the moment despite the firming of the US economy. A strong US dollar has made US exports more expensive, thus affecting their manufacturing sector. Unfortunately, this has also coincided with a collapse in shale-related investments. Likewise, Japan's steel demand remains subdued due to structural issues which has also been negatively



affected by the appreciation of the yen after the UK referendum.

According to the World Steel Association, global crude steel production reached 1.628.5 million tonnes (Mt) for the year 2016, up 0.8% compared to 2015. Annual production in Asia was 1.125.1 Mt of crude steel in 2016, an increase of 1.6% compared to 2015.

China's crude steel production in 2016 reached 808.4 Mt, up by 1.2% on 2015. China's share of world crude steel production continued to expand as it increased its share to 49.6% in 2016.

Chinese GDP growth in 2016 is expected to be at its lowest since 1990. To reduce the impact of rebalancing, the Chinese government has issued a number of mini stimulus measures. These are not expected to reverse the declining demand for steel but rather reduce its severity. Steel demand in China is projected to decline by -1.0% in 2016 and by -2.0% in 2017. The weak demand means Chinese mills are facing overcapacity, which will take a number of

years to normalise, and this has led to the export price of Hot Rolled Coils from China dropping below the cost of production.

In the rest of region, Japan produced 104.8 Mt in 2016, representing a decline of 0.3% when compared to 2015. South Korea produced 68.6 Mt of crude steel in 2016, a decrease of -1.6% compared to 2015.

The domestic and export markets in which South Africa's steel producers operate continued to be constrained with minimal growth as a result of import substitution and minimal local investment and infrastructural spend.

In early 2016, South Africa's largest steel producer ArcelorMittal applied for protection from local government in an effort to save the local steel producing industry that subsequently resulted in a 10% import tariff being imposed on ten separate steel import classifications. Despite this, local steel producers have still had to contend with an challenging environment, as the South African and key African markets continued to import large

quantities of steel, with an estimated 1.2 million tonnes of steel being imported into the country in 2016.

According to data released by ArcelorMittal, South Africa's apparent steel consumption decreased by 3.4% in 2016, as a result of subdued economic growth.

While domestic steel demand is expected to remain subdued due to low economic growth in 2017, there is some encouragement for local producers as South African authorities recently approved the designation for local steel in state-infrastructure projects.

Depressed growth figures in key market segments (manufacturing, mining and construction), combined with limited infrastructure-related investments and reduced housing development have all negatively affected the steel industry.

However there is some encouragement for local producers as local authorities recently approved the designation for South African steel in state infrastructure projects.



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# Municipal STAINLESS STEEL SOLUTIONS could SAVE SA MILLIONS



**W**ith South Africa experiencing Stage 2 and 3 water restrictions following its worst drought in decades, the spotlight falls on the solution of using stainless steel in water distribution and service pipes in South Africa to reduce leakages and maintenance costs and preserve our already strained water resources into the long-term future.

The importance of tightening up South Africa's water supply infrastructure comes into sharp focus when one considers statistics cited in a Timeslive.co.za report, which stated that up to 40% of

Johannesburg's water goes unaccounted for annually, costing the city R1.16-billion in the year (ending June 30, 2015). Of that about R851-million of water was lost to leaks.

These high losses have been identified in part to the use of inferior or inappropriate (system) metals in pipe joints and other fittings being used by municipalities including flanges, tee-pieces, reducers, and bolts and nuts all bearing short lifespans further compounded by high pressure systems and high corrosion levels in South African soils and resultant challenges in leak detection.

Southern Africa Stainless Steel Development Association (SASSDA) Executive Director John Tarboton says, "There is high value potential of using stainless steel material for service piping and all fittings predominately manufactured using grade 316 stainless steel in the service delivery of municipal water that can potentially save millions of rands currently lost in leakage and filtration costs as well as see a reduction in the usage of water per capita.

"With the use of corrugated stainless steel piping, the need for joints in the system is reduced, allowing the corrugated stainless steel pipes to maintain their strength, improve workability and extend the piping systems service life. There is a clear case of cost savings both on the treatment of water that is lost through leakage as well as water that municipalities are unable to charge service fees for its distribution and use. Stainless steel is an optimal material in water system applications and while it

comes at a price, it is an investment in the country's infrastructure, the benefits and cost-savings which will still be seen 100 years from now."

With the Newcastle area in KwaZulu-Natal, representing some of the worst cases of water waste, where three municipalities see as much as 65 percent of treated water leaking away or being used illegally. On the other end of the scale, the Drakenstein Municipality in the Western Cape is just one of a handful of municipalities which has the wisdom to ensure its water wise future.

When asked why his municipality is a frontrunner in the use of stainless steel applications, Drakenstein Municipality Senior Engineer: Water Services Andre Kowaleski who has 33 years' experience as a technical official in the municipality comments, "Since 2002 we have applied grade 316 stainless steel in all the metal we use in our underground network or grade 304 in above-ground applications. We also use stainless steel in all our refurbishments, including the recent refurbishment of the Meulwater Reservoir, Paarl Mountain and Van Blerk Reservoir in Wellington.

"This stems from the fact that when it comes to replacement maintenance, it would be unwise to put a pipe in the ground that has an operating life of between 50 and 100 years and then have to replace fittings, such as T-pieces and connection saddles that corrode and rust away after just a few years - there's no logic in that. You must use material with a life span of 50 - 100 years.



**“WITH THE USE OF CORRUGATED STAINLESS STEEL PIPING, THE NEED FOR JOINTS IN THE SYSTEM IS REDUCED, ALLOWING THE CORRUGATED STAINLESS STEEL PIPES TO MAINTAIN THEIR STRENGTH, IMPROVE WORKABILITY AND EXTEND THE PIPING SYSTEMS SERVICE LIFE.”**





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# STRUCTURAL HOLLOW SECTIONS

from an Engineer's perspective:

*What size should I use?*

Structural Hollow Sections are being used more and more in structural applications as they have proven to be aesthetically pleasing and very efficient profiles. This has resulted in an increase in demand for structural tube. This includes both direct off mill and "drawn" sizes. Typically, tube is used in applications where the member is subject to compression or part of a frame that may be subjected to both compression and tension depending on load direction. In some cases it may be used in application where the member is subjected to biaxial bending. This typically results in lighter more efficient structures.

Other benefits include ease of erection as they are typically lighter and the increased stiffness makes it possible to fabricate

longer sections. Last but not least, the result is an aesthetically pleasing structure.

## Design class of hollow section

One common denominator regardless of production process used is the structural behavior of the tube. As with other steel structural members, the performance of the tube is dependent on the class of member, typically regarded as stocky or slender. Class 1 and 2 are regarded as stocky. Class 4 members are slender and should be avoided, especially where the member is to be used as a structural element. One must bear in mind that Class 4 members are not structurally efficient, as they will fail before the steel reaches its yield strength. In this case it is recommended that one rather chooses a "stockier" size which may be smaller but more efficient, this would include Class 3 members.

Another interesting aspect of Class 4 members is that the higher the D/t or B/t ratios are the more difficult they are to manufacture. The difficulty will also increase, for the same ratios, the higher yield stress steel is as this ratio is inversely proportionally to the square root of the yield stress in the case of Square or Rectangular Hollow Sections; and inversely proportional to the yield stress in the case of Circular Hollow Sections. This correlates to the theory that thin plate or tube will elastically deform before reaching the yield stress, which may in the end result in severe deformation and in many cases results in failure of the member before it has reached its yield stress.

When Class 4 members are used the complex theoretical resistance of the member will need to be done from first principles in order to avoid unwanted failures.

ABOVE LEFT: Figure 1 – Example of tubes with too tight corner radii.

MIDDLE AND BOTTOM LEFT: Figure 2 – Tubes with too large corner radii resulting in large and inconsistent corner radii.

## Drawn tube – what to look out for

Drawn tube is often needed especially for sizes that are unique or where volumes do not permit efficient direct of mill rolling. By definition, Drawn (tube) Hollow Sections are Circular (CHS), Square (SHS) or Rectangular (RHS) profiles that are converted "off line" from a circular "mother tube". In this instance "line" refers to tube manufacturing mill in which the final (by size) product is made on a continuous tube production line. Simply described the process would be to take a previously formed (circular) hollow section and alter its shape, preferably without changing its diameter to make it smaller, into a square or rectangle which has the same perimeter as the mother tube.

The drawing process also allows for circular sections to be drawn down into non-standard diameters through dies. The cost of rolls used to convert the tube is often low as typically they can be used to manufacture many different sizes, so the cost of changing an on line mill set up to a new profile can thus be avoided, which is especially desirable when only small quantities are required.

One of the biggest advantages of Drawn tube is more than one size can be made from the Circular Hollow Sections input. i.e. the width and height of the profile can be varied for the same input mother tube, e.g. A 219.1 diameter circular hollow section can be converted to a RHS 250 x 100, RHS 200 x 150 or to a SHS 175. When producing tubes on an online mill, minimum order quantity is often based on the length of a strip of coil. To produce a drawn tube only the availability of the number of lengths of mother tube required is considered, hence small quantities can be made on a given "Turks head" setting. The only limiting criteria is that the size of the mother tube must be dimensionally suited to the finished drawn size. In order to draw down tubes, it is necessary for jaws to grip one end of the tube to pull it through the machines, resulting in a small length of waste on each tube (there are "no free lunches" so someone is paying for the waste)







The recommended (preferred) large square and rectangles sizes in graded steel (typically S355) are shown below. Smaller sizes, provided they are “standard”, will typically already be manufactured direct using on line mills. Consult the SAISC Steel Construction Handbook (The Red Book) or your friendly steel supplier or tube manufacturer if in doubt.

### Conclusion

Key for Engineers is to specify efficient members avoid class 4 members. Drawn tube serves an important part of the market where non-standard sizes are required and/or when quantities are small. When specifying drawn sizes, where possible, ensure that you specify a size that does not require drawing down before conversion, that are compatible with the mother tube standard sizes which will result in a finished product that will conform to the dimensions and standards called up in SANS 657 Part 1. The sizes listed in the latest Red Book will typically avoid many of the above pitfalls when specifying tube. For availability it is best discussed with your local friendly merchant or tube mill.

By sticking to these simple rules, the result will be a reduced cost and provide the end user with a better quality product.

*For more information contact Franco Mordini at Macsteel Tube and Pipe at (011) 897-2100 or on e-mail [franco.mordini@mactube.co.za](mailto:franco.mordini@mactube.co.za).*

ABOVE: Figure 3 – Good example where drawn tube was successfully specified – Standard Bank Façade in Rosebank.

BELOW: Figure 4 – Typically larger sizes.

If a mother tube circumference is greater than the perimeter of the drawn size, it is necessary to draw down the circumference to suit the end product before conversion. If not done correctly it can result in a profile that will have very tight corner radii. See Figure 1. If the radius is excessively tight this may result in cracking in the internal corners. The additional energy required also results in work hardening, especially in the corners, that reduces the ductility of the profile.

Annealing (heating and slow cooling treatment) may be required when excessive work hardening has occurred in the drawing down process. This can however be expensive and should therefore be avoided where possible.

If a mother tube circumference is too small for perimeter of the drawn tube is used, the result a profile which has very rounded corner radii considerably in excess of the

requirements of SANS 657 Part 1. See Figure 2. (The SANS document under which Tubes are produced). In many of these cases a compounding problem may occur in that the four rounded corners are often unequal and may present aesthetical problems. A good example is a SHS 175 that is drawn from a CHS 219.1, if 180 square is specified and product is drawn then corners will be very rounded and in most cases will result in unequal corner radii.

The simple and highly desirable solution is to specify the sizes that are a direct conversion, i.e. a size that does not need to be drawn before conversion. See Figure 3.

Drawn tube manufacturing does not have a place where volumes required reach a critical mass which justifies these sizes to be made directly, and more efficiently, using on line mills. Some examples, to name a few, are SHS 120, SHS 150, RHS 160 x 80, RHS 200 x 100.

### Rectangles

Size dxh (mm)	Thickness							
	3.0	3.5	4.0	4.5	5.0	6.0	8.0	10.0
200 x 100								
200 x 150								
250 x 100								
250 x 150								
300 x 140								
320 x 200								
340 x 180								

Class 4 tubes  
Class 3 or less  
Items in blue are typically drawn

### Squares

Size dxh (mm)	Thickness							
	3	3.5	4	4.5	5	6	8	10
150 x 150								
175 x 175								
200 x 200								
220 x 220								
250 x 250								
260 x 260								
285 x 285								
300 x 300*								

\* May not be in conformance to SANS 657 Part 1 as corner radii may larger than 3.4t

# SASFA TRAINING COURSE FOR BUILDING CONTRACTORS

SASFA has successfully presented its 6-day training course for light steel frame building contractors – **for the 24th time!** The course was presented at Marley Building Systems' training centre in Germiston during the week 6 to 11 March 2017.



By John Barnard, Director SASFA

The course is growing in popularity, as an increasing number of building contractors, developers, architects and engineers wish to become more knowledgeable about LSF, also on a practical level.

The course will be presented again in September 2017 in Cape Town.

The course is split into two sections:

**Steel frame materials, components, and erection** (4 days), covering introduction, the steel making process and properties of coated steel sheet, followed by sections on foundations, manufacturing of light steel frames and trusses, construction tools, wallframe set-out, handling, loads, floor framing, wall framing, roof structures, planning and the installation of services, and

**Internal lining, external cladding and insulation** (1½ days), covering the properties, manufacturing and benefits of glasswool insulation, acoustics, energy efficiency, environmental issues, storage and handling of glasswool and tools and installation methodology.

This is followed by a section on gypsum plasterboard, covering properties, storage and handling, cutting, tools and application for walls, ceilings and finishing.

Finally fibre cement board for external cladding is addressed, including the installation of the vapour permeable membrane, sizes and availability of fibre

cement – boards and planks, fixing accessories, installation guidelines, and door and window frame installation detail is presented.

To ensure that the theoretical concepts are well understood, the course includes a **practical component**, consisting of setting out of wall frames, squaring, levelling, and erection of wall panels, erection of roof trusses, installation of plumbing, external cladding (FC boards, OSB and FC planks), insulation and internal lining (gypsum board), and internal joint finishing.

The students who enrolled for the course came from Gauteng, the Western and Eastern Cape, KZN, Swaziland and Ethiopia. Most had some prior building industry experience.

After completion, they all rated the course highly, especially mentioning the value of the practical work. As part of the course, the students had to write two tests to assess their understanding of the subject matter. All of the students on this course passed, and received SASFA certificates of successful completion of the course. This brings the total number of students who have successfully completed this course since its inception in 2009, to 356.

The SASFA members who supplied support for the course and made it possible were Marley Building Systems, Saint-Gobain, Marshall Hinds, Kare and Simpson Strong-tie. Bosch PowerTools illustrated their wide range of equipment suitable for use in the LSF industry.



[www.sasfa.co.za](http://www.sasfa.co.za)

ABOVE LEFT: The students pictured with the LSF structure they erected as part of the practical work of the course.

ABOVE RIGHT: Peter de Bruyn, Training Manager of Bosch South Africa (and TV celebrity from 'Get it done! On the Home Channel'), explaining the range of power tools supplied by Bosch.



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# A GOOD NEWS STORY

**Babcock Ntuthuko Powerlines**, a member of the Power Line Association of SA, manufacturing facility reaches full single shift production capacity.

By Kobus De Beer, Director, Polasa



This powerlines business has been awarded four major contracts. The scope of work for the four contracts includes full foundation engineering, manufacturing, testing, project management and construction of high voltage overhead transmission lines, along with foundation installation, tower manufacture, assembly, erection and dressing and tension stringing. The transmission lines will be used to reinforce the Eskom transmission grid and integrate Medupi and Kusile power station into the national grid.

They recently secured the Eskom National Contract for hardware manufacture and supply. This has resulted in the company being at optimal single shift factory production capacity.

Earlier this year they were awarded sections A and B of the Ferrum-Nieuwehoop project for a 260km 400kV line. The project is significant for two reasons:

- it is the longest transmission line awarded to a single contractor since the mid-1980s
- it provided the opportunity to roll out new foundation technology – Babcock developed a single micro-piled anchor that can be drilled into the ground with minimal surface damage and environmental impact. This sophisticated mechanism is quicker to install, saving the client time and money

Recently they were awarded section A of the Kendal-Zeus / Kusile-Zeus 400 kV transmission line that will integrate Kusile power station into the national grid. The 76km 400kV Kusile transmission line is supported by 201 towers. The towers are heavier than normal with a combined tower weight totalling approximately 2 900 tonnes.

This is due to the the complex line route which navigates a congested farming area.

The fourth contract falls under the Masa-Ngwedi 400kV and 765kV scheme in Limpopo. It is a 21-month contract to build two portions of the Masa-Ngwedi line that reinforces the link of Medupi power station to the national grid. Both transmission lines are 80 kilometres in length and require approximately 5 400 tonnes of tower steel. Babcock was a contractor in the first phase of the Medupi project and was awarded the new contract through a competitive bidding process.

As the second largest transmission line player by value of contracts won, and the largest if you go by kilometres of lines to be built, Babcock is well positioned in the southern African power transmission sector.

*What a pleasure to share a local content success story in this industry!*



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***As the second largest transmission line player by value of contracts won, and the largest if you go by kilometres of lines to be built, Babcock is well positioned in the Southern African power transmission sector.***

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# Standard, good and best practice: DO WE REALLY NEED ALL THREE?

By Dennis White, Director SAMCRA



Fortuitously there exists a core of roofing contractors who continue to **STRIVE TO COMPLY WITH THE PRINCIPLES OF BEST PRACTICE** despite the ever increasing pressure by some professionals to match the prices of the unscrupulous.



Within the construction industry there has been an ever increasing decline in the standard of workmanship over the last two decades. Whilst the demise of the former Trade Schools has contributed to the decline in a number of well-known trades there are a number for which there was no local formal training of which roofer is one. During the 1950's and 60's there was a single major manufacturer of IBR and a single manufacturer of concealed-fix profiles, both of which would only supply installed cladding products. The installation was supervised, in large, by formally trained immigrant tradesmen known as roofers. As other manufacturers found ways of circumventing copyrights the metal cladding market changed from supply and install to supply with an option of installation and subsequently to supply only. Simultaneously former employees formed their own companies for the installation of cladding. Subsequently without any formal training the necessary skills have become diluted and the quality of workmanship declined. Where once there was only best practice there is now 'standard practice' (where just about anything goes). Best practice is defined as a method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark. Good practice (if such a thing exists) is best described as a compromise between the previous two.

A major shortcoming is that a lot of the details and methods have become

outdated. An example of which is the sizing and fixing of flashings. The installation of polycarbonate as in plane skylights is regularly miss handled despite most reputable profilers (cladding manufacturers) providing adequate details, instructions and recommendations.

Whereas the traditional pierced-fix profiles accommodate a fair degree of misalignment of individual sheets and supporting steelwork the performance of high-tech concealed-fix profiles can be negatively affected. Correct placement and alignment of anchoring clips is paramount to the accommodation of thermal movement and resistance to wind loading. The practice of only providing anchor clips on alternate purlins on roofs constructed of timber or light gauge steel is totally unacceptable.

Inadequate site storage and inappropriate handling where the protective coating/s are irreparably damaged and/or the ribs of the profile buckled is another source of concern.

Despite manufacturers of the base material and profilers requiring the use of shears or toothed slow speed metal cutting saws for the cutting of cladding many installers use high speed friction saws which not only leave a jagged burr, which has a negative impact on the protective coatings and excessive amounts of swarf (metal





particles) that are equally problematic if not swept from the roof on a daily basis, all of which can negate a warrantee.

We regularly see fasteners where the protective coating has failed within a year of installation. Fasteners should have coatings equal to or better than those of the cladding. Joints are repeatedly sealed with inadequate or inappropriate sealants, or not at all.

There are contractors whose sole aim is to install as many square metres of cladding as quickly as possible, botch the installation of routinely unsuitable ancillary items and run before the inadequacies of their workmanship manifest themselves, leaving owners and embarrassed profiles to short out the mess. Fortunately there exists a core of roofing contractors who continue to strive to comply with the principles of best practice despite the ever increasing pressure by some professionals to match the prices of the unscrupulous. Remember when it comes to cladding you get what you paid for. It is high time that a large number of roofing contractors cleaned up their image by improving their own proficiency plus employing fully trained supervisors and personnel.

In an effort to address the many problems member profilers of concealed-fix profiles have begun basic training of contractors' workers on the installation of their products and SAMCRA has initiated discussions with recognized institutions to develop a formal programme for the training of roofers and to have it recognized as a trade.

*Readers are referred to the various articles pertaining to cladding published on the SAMCRA website - [www.samcra.co.za](http://www.samcra.co.za)*



## INVITATION TO PARTICIPATE IN AN **Outward Selling Mission** to Nairobi, Kenya and Dar es Salaam, Tanzania

26 – 30 June 2017

*The ISF often receives notifications/ invitations to forward on to members regarding upcoming missions/ trade opportunity exploration trips.*

**the dti** invites you to apply to participate in an Outward Selling Mission to Nairobi, Kenya and Dar es Salaam, Tanzania. The objective of this mission is to increase trade and investment between South Africa, Kenya and Tanzania. It is an ideal platform for South African companies who would like to export value added products and services and for companies who are looking for investment opportunities in the East Africa region.



By Neels van Niekerk,  
Director ISF

The target sectors for this mission include:

- Agro-processing;
- Automotive products;
- Infrastructure (rail, road and telecoms);
- Built environment professionals (consulting engineers, civil engineering contractors, quantity surveying and architects);
- Mining and capital equipment;
- ICT and Electro-technical
- Chemicals, Plastics and Cosmetics
- Structures of Iron and Steel

Companies will be screened and selected in line with EMIA guidelines and market requirements, which are explained in the EMIA guidelines document. For the approved companies, **the dti** will provide:

- A subsistence allowance of R3 000 per day;
- An economy class return airfare to a maximum of R17 000.

Companies that are not eligible for EMIA funding are welcome to participate in this mission at their own expense. Companies applying for EMIA funding for this mission need to complete and submit the attached EMIA application form as well as a one page profile to:

**Utangamiri – the dti Group House,  
EMIA Division  
Building A: Ground Floor  
77 Meintjies Street  
Sunnyside  
Pretoria  
0002**

***The closing date for receipt of complete application forms is 21 April 2017***

For further information, please contact:

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# SOCIAL MEDIA MARKETING IN 2017:



# Sink or Swim?

Jacqui Mackway-Wilson, Digital Marketing Consultant, [jacqui@gosocialsa.co.za](mailto:jacqui@gosocialsa.co.za)

Our lives are increasingly intertwined with the overwhelming noise and clutter of the social media networks where so many of us spend increasing amounts of our time. The stats are staggering:

- 93% of buying decisions are influenced by social media
- More people own a mobile device than a toothbrush
- 1 in 3 marriages start online (we won't talk about the number of divorces),
- The fastest growing demographic on Twitter, is grandparents #seniorsrock
- Every second, 2 people join LinkedIn
- 'Word of mouth' has become 'world of mouth'

As Erik Qualman, author of Socialnomics from which the above statistics for 2017 have been gleaned says: *“We don’t have a*

*choice on whether we do social media. The choice is how well we do it.*" You may agree or may not agree. Often times business owners, particularly those from what would traditionally not be considered 'sexy' industries find it challenging to embrace social media marketing for their particular niche. You might be able to relate to some of the common objections:

***Who's going to do it?*** As the need to showcase your best work online and increase your business's visibility escalates, it becomes imperative to either have someone on your team who has undergone suitable training to fulfil the social media marketing function or to outsource the role to a social media marketing agency or freelance professional. Be sure to ask for references and examples of work and to look at their own social channels before making a decision.

Another common objection to using social media marketing is '*I don't want my*

***competitors stealing my clients'.*** Let's face it, business is about relationships. In this day and age perhaps more so than ever before, you have a number of ways to stay connected to your customers, with social media being one of the most popular. The numbers don't lie; this is where your customers are spending their time. Social media today is as the Yellow Pages was in years gone by: if you're not active online, in the eyes of your customer, you simply don't exist. Your online presence can be an advantage. Your lack thereof, or mismanagement thereof, a distinct disadvantage. Are you aware of what is being said about your business online? The conversations are taking place daily and mentions that could be pertinent to your industry are happening whether you are aware of them or not. Do you have mechanisms in place to monitor (and if necessary, intercept) these? If not, you are potentially entertaining many missed opportunities. Having a social media and



**"WE DON'T HAVE A CHOICE ON WHETHER WE DO SOCIAL MEDIA. THE CHOICE IS HOW WELL WE DO IT."** *Erik*

*Erik Qualman, author of Socialnomics*



online reputation management strategy in place can help to maximize these opportunities.

*'Yes Jacqui, this all sounds wonderful, but to be honest, we don't know where to start'.* You are not alone when it comes to social media marketing and knowing where or how to begin. Successful social media marketing does not take a cookie-cutter, one-size-fits-all approach. Tailoring a strategy to suit your specific goals and objectives for using social media is much more likely to give you the results you're looking for. Book a strategy consultation to help you develop a plan. Then you can decide how best to implement it, whether it will include training an in-house staff member for the role or outsourcing to a marketing agency or professional to execute on it for you.

Story-telling is a key component for success when it comes to your audience relating to the content that your business shares. You have a myriad of platforms to choose from, choose wisely. It's best to select platforms where your customers are spending the majority of their time, rather than to spread yourself too thinly and try to be 'everywhere' for 'everyone'.

Remember that you have an untapped resource in your team of staff. Each of them is an ideal candidate to become a brand advocate for your business and this is a golden opportunity to increase the visibility of the stories you tell.

*"So what story can I tell? We don't have much of a story Jacqui..."* Every business operation has a wealth of stories to tell and part of my work as a strategist is to help you uncover yours and plan a way to share them consistently over time to engage your online audience and turn them into fans of what it is you do and believe in. Your story can include elements of how your business began – perhaps it's a family-owned and managed operation with a rich history of humble beginnings that bears telling? Perhaps you can tell the story of a design journey for a specific piece of work that you'd particularly like to showcase? Showing your audience your work and letting it speak for itself is one effective means of storytelling online. Take them behind the scenes of your business; introduce them to your staff and let them find out what makes your team tick, what makes you tick, what makes your whole operation tick, in fact. Your audience wants to experience the human touch through digital tools.



## A showcase of tenacity and innovation in our industry

**Steel Awards, which will take place on 13 September 2017, plays a critical and inspirational part in the survival of our industry by focusing on what has been achieved rather than (or in spite of) the challenges we face. It is also a very tangible example of how resilient and resourceful the people in our industry are.**

**We've chosen "Survivor" as the theme for this year's Awards event because we want to showcase tenacity and innovation in our industry, where teamwork (not an "every man for himself" mentality) is the catalyst for success.**

The SAISC would like to thank all the sponsors that have come on board. The 2017 Steel Awards sponsors include **AVENG Trident Steel** (Main Sponsor), **Macsteel** (Popular Vote Sponsor), and **CADEX Systems SA** (Photo Competition Sponsor). Although the judges decide on the categories and winners based on the actual entries received, the following awards and categories are confirmed, and have been made possible thanks to this year's sponsors: the AVENG Trident Steel Awards 2017 Overall Winner, The ASTPM Tubular Category, the MiTek Light Steel Framing Category, the Global Roofing Solutions Metal Cladding Category, the Safintra Factory and Warehouse Category and a new category – the SAFAL Innovation Category. **NJR Steel, BSi Steel, Stewarts and Lloyds and ArcelorMittal South Africa** have also been confirmed at partner sponsors.

**Bookings to attend the Steel Awards events in Gauteng, Cape Town and Durban will open on 1 July 2017. The booking form will be made available on the SAISC website, and can also be requested by emailing [denise@saisc.co.za](mailto:denise@saisc.co.za)**

## SOCIAL SNIPPETS:



### SAISC BREAKFAST with Wim de Klerk of ArcelorMittal South Africa

COUNTRY CLUB JOHANNESBURG, 8 FEBRUARY 2017

Topic: Current initiatives in the industry, prospects for 2017 and how we can work together to survive and grow.



## GOODBYE MARLÉ!

After spending 10 years with the SAISC and successfully arranging a myriad of events, Marle Lotter has decided to spread her wings and explore! She will be missed by all at the SAISC, as well as our members. Here are a few well wishes:

Liefste Marlé

Baie dankie vir die geleentheid om jou te kon leer ken en die voorreg dit was om die afgelope paar jaar saam jou te kon werk. Ek wens jou alle sterkte toe met jou aftrede, hoop jy rus lekker en geniet elke oomblik, want jy verdien dit! Gaan jou baie mis.

— Kara Jansen van Vuuren

Dear Marlé

You don't often see people as committed as you in the workplace. It has been a great honour getting to know you and I believe that if you just put half the effort in your next endeavour it will be a great success as well. Thank you for your dedication and commitment – you've brought industry together at more events than one can mention! All the best for the future.

— Eileen van Rensburg

Marlé, you are an absolute diamond and have contributed so much to SAISC over the years. Best wishes for your future endeavours.

— David van Zyl

Perfection is at the very core of your being, a rare asset to be envied. Anyone who has had the good fortune to attend an event organized by you could not fail to be impressed. Marlé you are going to be sorely missed. I wish you good health and every joy in your new venture. Thank you for the privilege of working together.

— Dennis White





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