

# New National Library



**2009 Hot Dip Galvanizing Awards Submission**

**Location:** Pretoria

**Project Team:**

<i>Client</i>	Department of Public Works
<i>Architects</i>	Jeremie Malan Architects in association with ImpenduloDesign Architects and Gandhi Maseko Lingelighle
<i>Project Manager</i>	Jeremie Malan Architects
<i>Main Contractor</i>	Rainbow Construction in a JV with WBHO
<i>Fabricator</i>	Marie Steel
<i>Hot Dip Galvanizers</i>	Armco Galvanizers Robor (Pty) Ltd - Galvanizers
<i>Quantity Surveyors</i>	Taljaard Meyer Storm Lindile Mteza & Associates Quantity Surveyors Africa
<i>Consulting Engineers</i>	UWP Consulting Engineers Malani Padayachee & Associates Sintec

**Project Completion Date:** August 2008

**Project Value:** R300 million

### **Description of Project:**

The new National Library incorporates a four-storey, 33 000m<sup>2</sup> building, including a raised public piazza leading to the entrance; steel and glass covered walkways and ramps and double-volume reading rooms with views onto the streets.

### *Introduction*

The National Library is a Public Works building with a difference. Situated in Pretoria's Central Business District on Government Boulevard, the building combines all the different requirements of The National Library (previously spread over five buildings in the city). This part of the city is severe in looks and this openly modern but elegant structure, with hard wearing external finishes of flush red brick, galvanized steel and flush glazing, projects a proud new approach to public buildings.

The new National Library is a unique, fully-funded government project to foster and revitalise education, arts and culture within South Africa. The first South African library was founded in 1818 and the Pretoria campus of the National Library of South Africa only came into existence in 1887.

On 1 November 1999, a decision was made to integrate the Cape Town Library and the Pretoria State Library into a single National Library of South Africa. The Pretoria campus (the national bibliographical library) and the Cape Town campus (the preservation library) would make up this national library.

The library, completed in August 2008, will place South Africa on the world map as a modern scholarly country that holds its National Library in high esteem.

The materials used are face brick, concrete, steel and glass, which are easily maintained, thereby keeping maintenance costs low. The simplicity of the materials means that the building will not date quickly and will help promote the building as an ageless icon that will still be relevant 50 years from now.



Existing trees on and around the property were protected and preserved, with heavy penalties imposed for any trees damaged. Out of 21 trees, only a single tree was damaged, with the responsible contractor having to plant 13 new trees on the western façade.

All façade steelwork is hot dip galvanized, which presented some challenges and many grey hairs in trying to achieve a uniform colour. The Hot Dip Galvanizers Association provided invaluable support during this stage.

### **Innovation and the Promotion of Benefits**

Hot Dip Galvanizing was selected by the architect due to its low maintenance, sustainable long life and aesthetics. Jeremie Malan describes the aesthetics in this project as the naturalness of the materials used; dark face brick versus the light colour façade. Furthermore there is a contrast between the dark solid face brick versus the light weight hot dip galvanized facades, which are inviting and visually approachable. The materials were not selected because of their perfection in terms of colour – in fact, face brick; granite and hot dip galvanizing all vary in colour!

The selected colours on this project represent the “sand” colours of South Africa; dark by the brickwork and granite, light to reflect the sky and the glimmer reflected by hot dip galvanizing.



Thabo Mbeki is asking Jeremie to explain why the hot dip galvanizing has taken on the varied colours we often see in galvanizing when the steel is reactive. Jeremie, in his best understanding told Thabo Mbeki about the finer points of hot dip galvanizing.



### **Improved Technology**

This project used the Architectural Checklist for hot dip galvanizing. This checklist was developed for the MTN Building and a visit to the MTN Head Office was a reassurance and source of favourable information prior to the finalisation of the specification.

The achievement of a quality hot dip galvanized coating, for general and architectural use, is dependent on many issues, some controllable and some not. In the case of large contracts, the galvanizer should be involved at the programming stage with the fabricator and the end user.

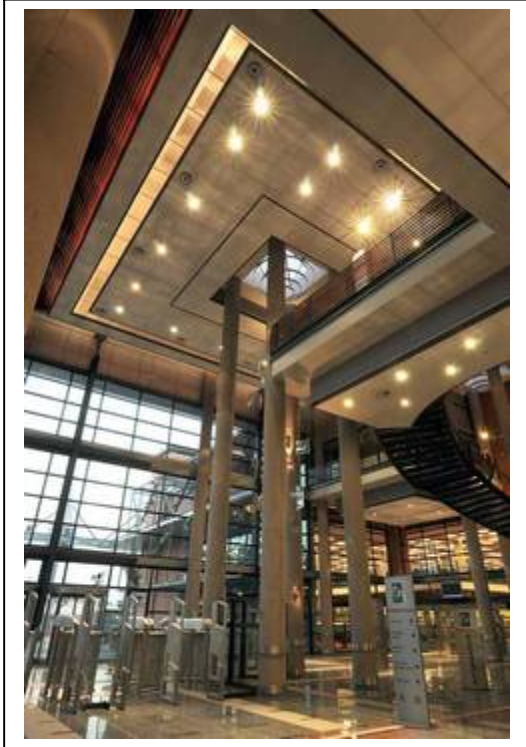
The success of this project will certainly encourage other architects to specify hot dip galvanizing for architectural purposes. Jeremie Malan, the architect, has said that even though the Association staff member who inspected the work compiled a five-page “snag” list, his issues with the hot dip galvanizing were extremely small compared to other problems he encountered on the project.

### **Promote Professionalism**

The architect believes that part of the success of this project was due to the early involvement by the Hot Dip Galvanizers Association Southern Africa, as well as frequent meetings throughout the process in order to ensure the communication “lines” were kept open.

A further contribution to the success was that of detailed drawings by the architect, consulting engineer and shop drawings by the fabricator.

This project promotes partnerships with all parties involved. The correct chemical analysis of the steel with regard to silicon and phosphorus content was discussed with all parties, including Highveld Steel, and approved and added to all the consultant's drawings. However, there were instances when steel was purchased from other suppliers. The lack of availability of the specific steel was raised as a concern, discussed and resolved at a meeting attended by all parties.



### **Provide Service**

The project benefits the Department of Public Works in that the building will not date quickly and will promote the building as an ageless icon that will still be relevant 50 years from now. Furthermore, the use of hot dip galvanizing as the corrosion protection system will ensure that it has a maintenance-free, long life.

As discussed under “promote professionalism”, this project promoted partnership right through from the architect, fabricator and hot dip galvanizer. Furthermore, even the steel supplier was involved.

### **Celebration of Superiority**

A new campaign was launched in 2001 to position the library as an icon for the people to uphold for years to come. It was conceived to create a new image within an initiative called “Masifunde Sonkwe” that aims to promote and maintain a reading culture within South Africa. This reading culture will ensure that the South African heritage and values are upheld through all cultures and languages.

The location of the building was a key factor in the actual effect of the library. The building sits on the corner of Struben Street, Andries Street and Proes Street in central Pretoria, forming a library block along what will eventually be known as

“Government Boulevard”. This will link the CBD of Pretoria right through to the Union buildings, making it a unified parade of influential government buildings.

The building seats 1 500 users, making its capacity 10 times that of the former library, which was spread out between five buildings. Furthermore, the library will be able to house 3.5 million books within the next twenty years and a further 2 million books over the next ten years after the initial period.

The new National Library has been split into two sections, one being the studying section and the other being the research section with a foreign official publication section. This will allow foreign officials to access information directly from their official government publications, thereby helping to promote the library all over Africa, as an information hub of Africa.

### **Dissemination of Knowledge**

There was a huge, concerted effort throughout the project to ensure that all project partners were aware of their obligations in order to ensure that a quality, architectural hot dip galvanized coating ensued.

### **Market Growth**

This project would certainly encourage the Government to use hot dip galvanizing in the future, thereby protecting its assets. Furthermore, the architect has stated that given the same project requirements again, he would re-specify hot dip galvanizing.

### **Exceptional Merit**

The location of this project, being in the centre of Pretoria, with extremely limited off-loading and lay-down areas presented some real problems from a logistical perspective. Selection of the crucially required steelwork, both through the fabricator and hot dip galvanizer, had some though provoking moments!

Government Boulevard, previously Struben Street, was affected during construction, as total closure was often required for materials handling. So, as not to cause frustration to road users, the main contractors constantly liaised with the Tshwane Traffic Department.



*Conclusion:*

The brief was for a government building that the people of South Africa could relate to and uphold for many years to come, that will still be relevant fifty years from now and will instil a sense of pride for future generations. The age of an information society is dawning and this library will prepare the nation for this era and ensure that a national and personal development of the nation is achieved.

