



## PROJECTS



### WOODLINE SOUTH AFRICA

North Rand Road, Boksburg, Gauteng

#### Client

Woodline South Africa

#### Architect

Empowered Spaces Architects

#### Quantity Surveyor

QDQS & Associates

#### Consulting Engineers:

##### Structural & Civil

Network Structural Solutions

##### Electrical

IPES Consulting Engineers

##### Fire Services

Dorling & Associates

##### Main Contractor

Gothic Construction

##### Photography

Ronnie Levitan

# Woodline South Africa

New production facilities, showroom and offices for Woodline South Africa, manufacturers of outdoor furniture for the local and export market

Whilst finishing the new Woodline building on North Rand Road, on Johannesburg's East Rand, the contractor was constantly asked by passersby when the new gym would be opening!

The slick, late-modernist aesthetic of this industrial building, has an expressive double volume glazed showroom opening up to the road frontage. Its bold use of industrial materials, such as zincalume cladding, large glazed spans and cantilevered metal sheeting roof, cleanly articulated to create a neat modern machined aesthetic which owes more to the clients wish for a new production headquarters of international standing for their export business, than to any desire to mimic the current shopfront gym aesthetic.

#### THE BRIEF

The clients, who manufacture and export outdoor furniture and umbrellas to Europe and the USA, wanted their new building

essentially to house their production facilities, as well as allow for a showroom and some offices.

Their mandate to the architect was to create a building with an international aesthetic, which would become a landmark within the area, and express their status as an international company, as well as to provide a pleasant and productive work environment for their employees.

Over and above this, there was also a desire to maximise the road frontage for the purpose of exhibition showroom space. With a bold move, considering some of the neighbouring developments, the clients also desired the building to be of a high calibre and aesthetic, in a drive to boost the status of the area.

This "gamble" paid off and where earlier some advisers were worried about the clients over-capitalising, the truth of the development is that the building has increased its value by boosting the value of the area.

## THE BUILDING

The building itself is very simple, consisting of essentially three main elements, 7,500m<sup>2</sup> of production and assembly warehouse with 600m<sup>2</sup> of showroom and 600m<sup>2</sup> of offices situated above the showroom.

The beauty of the building lies in the high level of detailing of the materials employed, although they are simple and inexpensive industrial elements, to create the overall neat clipped modern aesthetic which is at once economical and yet highly effective visually.

The client wanted to use durable materials with a long life cycle and with minimum maintenance required, which led the architects to selecting zincalume cladding. This expressed the subtle profiled nature of the industrial metal sheet cladding and utilised its low maintenance attributes as the main external element of the warehouse building. A tinted plaster surface treatment was employed, detailed into expressive panels relating to the modules of the strip windows and shopfronts and the expressed slate-clad signage wall.

On the road frontage, opening to the south, the façade essentially consists of a simple two storey glazed shopfront, animated by the use of a smokers terrace from the offices and an angled dynamic signage wall marking the double volume entrance. Within this glass block, tinted plastered walls have been inserted with ribbon and punched windows decoratively employed within the inscribed panelled



plaster. The effect of this is that the 'glass block' is visually enhanced with additional detailing, whilst the overall cost of the glazing is kept to a minimum, replacing areas of glazing with plastered wall.

A single angled shopfront bay with balcony above extends the display around the corner of the building, increasing the display space and carrying the façade around the building, rather than merely creating a flat frontage on the roadside.

**This Page and Opposite Page:**  
The front fa ade exhibits the desire to maximise the road frontage for the purpose of exhibition showroom space





### **Project Information**

#### **Size of Site**

10,000m<sup>2</sup>

#### **Construction Area (area under roof)**

8,500m<sup>2</sup>

**In situ soil conditions necessitated bulk excavations and the import of earth filling to make up the required levels**

5,700m<sup>3</sup> was moved in the process

#### **Area of Site Paved to Accommodate Vehicular Traffic**

4,900m<sup>2</sup>

#### **Structural Concrete**

2,300m<sup>3</sup> (385 ready-mix truck loads)

#### **Bricks Utilised (stock & face brick)**

445,000

#### **Amount of Suspended Ceilings**

2,600m<sup>2</sup>

#### **Goods Hoist (size & capacity)**

3,600 x 3,600 x 2,200 height with a 3 ton capacity

#### **No. of Fire Sprinkler Heads**

900

#### **Structural Steel used in Columns, Girders, Portal Frames, etc**

155 tons

#### **Dock Levellers**

10 ton capacity each

#### **Galvanised Roof and Side Cladding**

8,700m<sup>2</sup>

**This Page and Facing Page:**  
Elements of the structure are clearly expressed through form, material and lighting

All these elements combine under the oversailing roof to produce a modern neat aesthetic which initially seems quite expensive. The reality is that the glazed (read expensive) portion is not that large, and the detailed elements have employed economical materials such as the plastered treatment and the choice of slate cladding on the angled signage wall, which have been cleverly placed to maximise their exposure and create the appearance of an opulent finishes budget, whereas the overall cost of the entire building came within acceptable norms for a similar industrial mini-factory.

One disappointment, however, has been the low level of attention given to the landscaping of the area around the building, particularly the area directly relating to the showroom space. This may be a temporary element, as the existing planting is young and not yet established; however, the resulting scraggly planting

within dusty planters separating the building from the paved front parking area is not in keeping with the building's well-worked aesthetic.

That said, however, there are elements within this project which are to be lauded. The clients were design-sensitive and demanded a building of an international standard and were brave enough to seek a modern and distinctive aesthetic for their new premises.

The resulting project displays how the wise use and clever detailing of typical industrial elements usually employed in buildings of this nature can be used to create a top class modern building, and a regional landmark, within a reasonable budget.

The resulting honed physique of the structure may not have been a gym, but the result is still a healthy and aesthetically appealing addition to the Johannesburg scenery.

### **ELECTRICAL ENGINEERING**

The Electrical Engineers were involved in the Design and Supervision of the Electrical installation of the Woodline Manufacturing project. Mr. Johan van den Berg was the Project Manager.

On this project, they did the complete electrical design which included the lighting, electrical supply, electrical power points and lightning protection. This project's total budget was R16m.

### **FIRE PROTECTION**

The design of fire protection for the Woodline / Protrade building included architectural building features, always an important point as fire protection should never be the application of prescriptive rules without considering geometric spatial aspects created by the architect.



Two main features were incorporated by the fire protection design, namely the placement of the main administrative office block and the "wing swept" monitors over the main factory and storage areas. Firstly, the placement of offices by excluding communication openings to the factory, allowed for the exclusion of sprinklers to such offices. Three fire doors provided separating elements between the office and production / storage areas to prevent the spread of fire between either of these areas.

This type of feature was allowed because management of the main production area is not done through view windows, but through management's ability to direct operations directly on the factory floor. An important aspect in preventing fire spread, as viewing windows between offices and production severely compromise ventilation and sprinkler systems. Typically, where viewing windows are installed, sprinklers have to be extended into such office areas, resulting in additional cost to the project.

The "wing swept" monitors also allowed for substantial cost savings against dedicated smoke ventilators. Here, a delicate balance had to be drawn between day-to-day ventilation and smoke ventilation. A common fault on many projects is that permanent open ridge vents [the cheapest form of smoke ventilation] are installed with just sufficient opening to vent a fire. Then, not long after the client has occupied the building, additional "Whirly Birds" have to be provided to the roof to vent for a day-to-day application of heat exhaust.

On the Woodline / Protrade building, however, a marriage between the two was allowable because of the "wing swept" monitors. It must be noted however, that this could not be incorporated into every fire design, a subtle balance of fire load,



sprinkler installation, louvre angle and inlet openings had to be applied.

This project is a good example of architectural design, operations management and automatic fire systems installation being balanced against cost of installation to provide effective defence against fire spread. Additionally manual fire fighting systems have been installed to allow for the most effective use of arriving fire fighter tactics. Boksburg fire department utilises the most modern of fire ground operations, thereby allowing further cost savings by the incorporation of such systems into the final design.

In short, fire protection must include all stakeholders in the final design brief. The application of "dead" rules should always be avoided and the creation of a "living" fire protection design commensurate with geometric space made possible through effective communication with all project participants.



WOODLINE SA

### Advertisers on this Project

#### DDL Equipment

Specialists in the Material Handling Industry, specialising in marketing, consulting, assembly, installation and servicing of dock equipment

#### Domo SA

Manufacturers and suppliers of a wide range of floor coverings, including Protex Cosmos floor tiles on this project

#### Dorling & Associates

Specialist Fire Consultants

#### Empowered Spaces

Architects

#### Gothic Construction

Main Contractor

#### IPES Consulting Engineers

Consulting Electrical Engineers

#### Impact Design Aluminium & Shopfitting

Suppliers of aluminium shopfronts, sliding windows; shower and patio doors; glazing; drywall partitioning, ceilings and bulkheads

#### Independent Fire Protection Systems

Fire Protection specialists

#### Macsteel Interior Systems

Leading manufacturers, extruders and distributors of high quality products used in the Ceiling & Partition Industry.

#### Matthew s Ceilings

Installers of suspended ceilings and partitions

#### Owens Corning

Manufacturers of a range of fibreglass products for thermal and acoustic applications

#### Network Structural Solutions

Consulting Structural/Civil Engineers

#### QDQS & Associates

Quantity Surveyors and Project Managers