



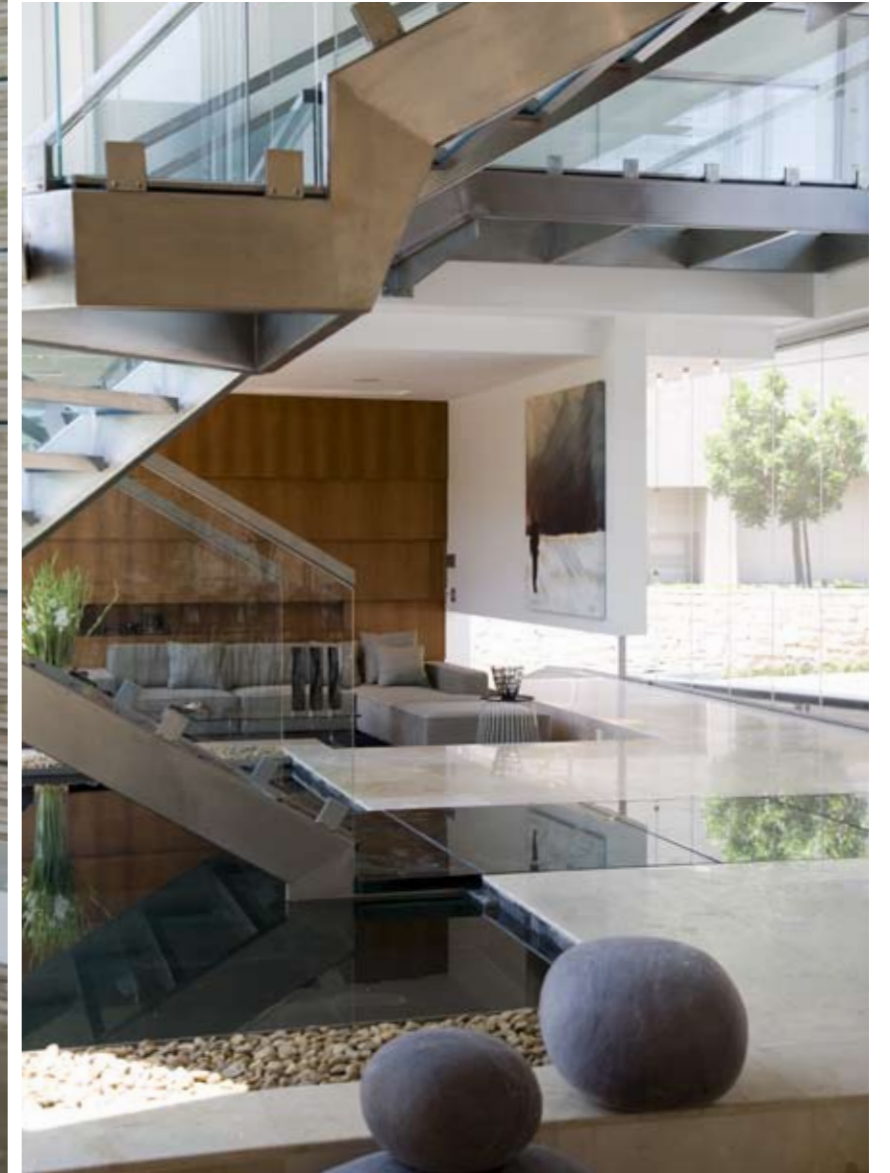
Glass House

location: Senderwood, Gauteng
architect: Nico van der Meulen
interior design: M Square Lifestyle Design
photography: ???

NO SMALL STRUCTURE, THIS HOUSE MEASURES ALMOST 2500M² ON A 4000M² STAND ON WHICH A 1950'S HOUSE WAS DEMOLISHED. THE BRIEF TO ARCHITECT NICO VAN DER MEULEN WAS FOR A GENEROUS HOME, WHICH WOULD SUPPORT AN INFORMAL LIFESTYLE ON A GRAND SCALE. ►

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The north and east-facing wing of the horseshoe incorporates the dining room, family room, lanai, indoor pool, play room, bar and gymnasium. This is wrapped in a 70m stretch of frameless folding / sliding doors, 3m to 6m high, enabling the total area to be opened up as a verandah with a minimum of very slender columns used; as the overhead beam supports most of the structure and transfers the load to columns outside the building.



The resultant floor-plan was to include only a small formal lounge yet have an oversized open-plan family room, breakfast room, lanai, bar, indoor pool, gym and kitchen. A formal dining room was required to seat up to 20.

Says the architect: 'I created a horseshoe-shaped building, with all rooms facing a central, raised glass koi pond as a focal point in the open northern side of the horseshoe. This water feature begins on the north side hall and leads through the centre of the horseshoe, with a two-storey high signature beam framing this view. This supports a large part of the building, making other columns unnecessary.

This house is to a large extent transparent and from the south parking area one has a total view through the building to the north. It was designed according

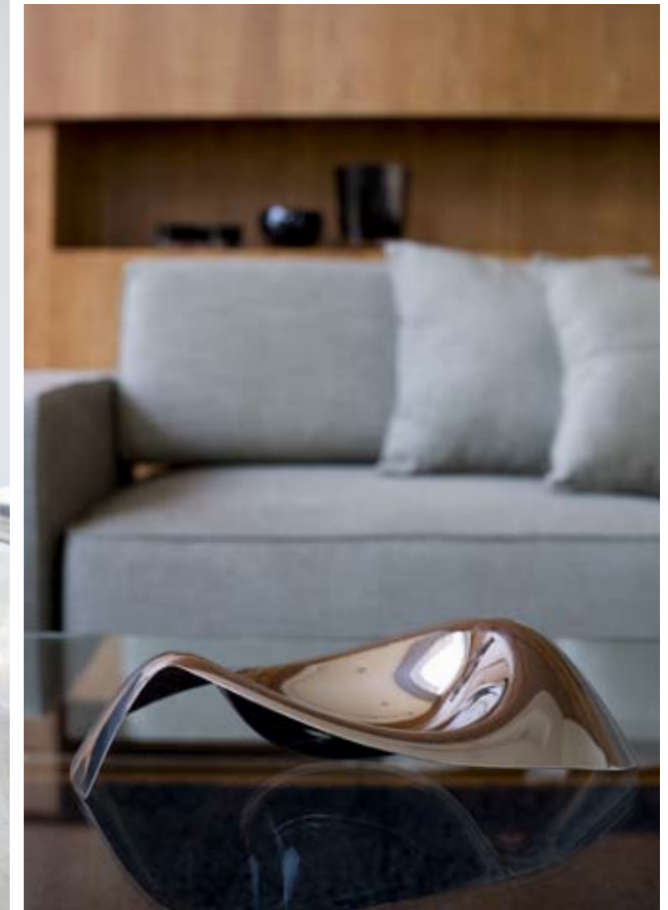
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The staircase is a stainless steel and glass structure floating above the water feature without any visible support, with views over the central part of the horseshoe, and the raised koi pond.

to passive energy principles and on the warmest day the chimney effect of heat rising is used to make it possible to reduce interior temperature without air conditioning; as the airflow over the indoor and outdoor pools cools the air sufficiently.

'At the same time the indoor pool absorbs heat from the north sun and stores it to heat the space at night. Using massive walls and other shading devices allows only winter sun into the house, with the floors and walls absorbing the heat and releasing it at night. The indoor pool is heated by a pump, which uses an input of 1kw to release 3kw of heat into the water.

Whilst the indoor pool is covered by a huge slanted glass screen with frameless folding doors on the ground floor to the north and corresponding doors on a balcony overlooking the pool to the south. This helps to create the chimney ►



effect, which cools down the area in a short period of time when necessary.

'Supplementing this is the skylight, which acts as an area where condensation takes place, avoiding the musty smell associated with indoor pools, where moisture can condense throughout the building. As the pool has day-long exposure to the winter sun, it acts as a huge heat store during winter when the doors are kept closed, reducing the heating requirements of the house dramatically. The pond in the hall is used to similar benefit.'

As the building is traversed on the south side, from the guard house to the glass-covered porte cochere, the driveway is raised to enable a view from the south side of house, across the dining room to the koi-pond on the north side. A timber-slat enclosed lift shaft and a huge circular beam curve around the southern perimeter of the building to create the necessary stability and enable the use of large areas of glass. The glass outlay accounted for more than 15 percent of the cost of the building. ▶



Key to the transparency is the core of the building where an open atrium is overlooked by the kitchen, breakfast room and family room. It is surrounded by frameless, folding doors so that the inhabitants can ventilate the house without compromising their security. It also enables the outdoor pool to be monitored from the kitchen, a vital factor for the four young children of the family.

All the bedrooms and most of the bathrooms are north-facing with glass sliding doors extending the full length of the north wall. The other bathroom roofs are designed to create north facing sun-scoops, allowing the winter sun and light inside. The main bedroom and bathroom north and east walls slide away onto the balcony to create an al fresco effect. The balcony is roofed on the west side, to cool the space on hot summer afternoons, however allowing winter sun in throughout the day.

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A wall clad in 'Jerusalem' stone extends into the dining room, where floating glass shelves are embedded in the stone. Adjoining the kitchen and bar to the indoor pool are built-in gas and wood braais plus a pizza oven.

Comment from the interior designer:

Our brief was to keep the design uncluttered and functional and quite specific regarding the use of material. Preferences were for marble, solid cherry wood, stainless steel and glass.

The truth to material-use encouraged me to employ materials in different applications, states and forms. Since colour was limited, materials needed to create the contrast and texture. Marble was either polished, split face, unfilled or used in a riven application, timber was used in solid form as lattice work (around the lift), or as bentwood panels in the lounge. Glass was used in clear, back-sprayed and sandblasted options.

The scale of the project was very large and it was a challenge to give each ►

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The main suite comprises a private lounge with a gas fireplace and kitchenette, bedroom, dressing rooms, bathroom and balcony. From the private lounge the owner can enjoy the indoor pool, swim to the gym, exercise, then return using the spiral staircase back to the balcony outside the main suite.



room a different identity when restricted with colour and material. The house hardly has any walls; spatial division between rooms is purely defined by the different ceiling textures and forms so that their layout suggests the delineation of the interior into rooms.

My inspiration came from studying hotel precedents around the globe. The house almost has the presence of a luxury boutique hotel. I wanted to create something fusing luxury with the functionality of pure modernism.

The design was approached from outside in. I took the pond as my starting point in setting out imaginary construction lines. From there the design gave birth to features of interesting forms and suggestive special barriers.

In every aspect of the interior design the architecture had to be reflected and respected; whatever happened outside had to be echoed inside. ■