DOMERIUS SERVICES

Professional Architectural Designs & Construction

Who we are:

We are an accredited companies with Ikhaya Futurehouse (IFHS) our thermally insulating, wall and slab building panels are not only great for the environment but extremely easy to use. It makes buildings more sustainable due to its insulating properties, for example less heating and cooling. It keeps cool in the summer but warm in the winter. Our thermally insulated wall panel has very little maintenance costs but has the look of concrete. Yet it is cost competitive with brick and mortar. Ikhaya Futurehouse Systems (IFHS) was established in 2006 after extensive research into alternative building systems available worldwide. IFHS is part of a larger group of companies which has been established in South Africa for over 30 years and provides ancillary products to the building system, including paint and industrial coatings and double glazed windows.

The company started by getting the necessary building system approvals from; SABS/Agrément Board of South Africa and the NHBRC and built showcase units to exhibit the system to potential clients. IFHS has continued to innovate and improve on its certifications and has recently, in 2012, revised and updated its Agrement certification to reflect innovation in construction methodology

IFHS is based in Centurion, Gauteng and sources all raw materials locally in South Africa. The company's manufacturing capability is more than capable of sustaining the most demanding supply deadlines and is scalable and flexible to meet custom project requirements.

A network of IFHS accredited builders and agents are in place and being extended as demand for the company's products grow. IFHS is supported by a group of people with extensive experience and knowledge in alternative building systems. Our team has all the skills to manage a business of this nature.

The company's aim is to offer the African construction market a fully integrated package of environmentally friendly and energy efficient building systems and support these with:

- *System Training*
- *Builder Accreditation*
- *Design and Engineering Support*
- *Sustainable Building Design Service*

IFHS has supplied and installed panels throughout South Africa and has exported extensively throughout Africa, including Lesotho, Mozambique, DRC, Botswana, Tanzania, Mauritania. IFHS believe that the Futurehouse system offers the best combination of performance, ease of building and economy for the African market.

PRODUCT AND SERVICES:

We offer ***MATERIALS OF THE FUTURE*** *with new SANS 204 and 10400-XA legislation, South Africans will be forced to meet certain energy efficiency and environmental requirements. The IFHS building system is fully compliant with this new legislation. All Futurehouse materials are sourced in South Africa and our manufacturing is done entirely in South Africa. We offer* ***ECO FRIENDLY IFHS****, sustainable, saving building time, saving energy expenditure and making buildings more comfortable to live in. We offer* ***COMPLETE SOLUTIONS*** *a complete range of products and services that complement our walling system. Products that include under floor insulation, suspended floor and roof slabs, insulated ceilings and plastering and finishing systems as well as double-glazed window and door systems. Services include on-site training, engineering and construction consultancy.*

FUTUREHOUSE WALL PANEL:

The Futurehouse walling system is a structural, pre-fabricated walling panel with an expanded polystyrene core encapsulated in high tensile steel galvanised wire mesh. Panels are supplied in standard sizes; 1.2m wide x 1.2m wide x 2.5, 2.75 and 3m height. Custom heights can be made to order. Panel core EPS thickness variants of 40, 60, 80 and 100mm.

FUTUREHOUSE SLAB PANEL:

Futurehouse slab panels can be used for floor slabs of varying spans. The Futurehouse Slab System comprises a panel with the same profile and mesh reinforcing as the walling panel but with two channels cut out of the EPS which, with additional reinforcing rebar, create beams when cast with concrete.

FUTUREHOUSE THERMAPANEL:

Thermapanel is an expanded polystyrene sheet with tongue and grooved edges to fit tight together for the thermal insulation of underground floor concrete slabs, cavity brick walls and above conventional ceilings.

PLASTER APPLICATION EQUIPMENT:

Futurehouse directly supplies locally manufactured hand held plaster spraying machines which are inexpensive and run off a small compressor. For larger projects Futurehouse can also advise on automated, more industrial plaster spraying machines.

FUTUREHOUSE SKIMPLAST:

Skimplast is water based acrylic plaster solution to which plaster sand is added to make a flexible, impact resistant, maintenance free, natural looking, and thin finish plaster coat. Skimplast takes on the colour of the plaster sand used but can also be pigmented to increase the colour options.

TRAINING PROVIDED:

For construction projects Domerius Services together with Ikhaya Futurehouse offers support services which include panelisation and costing of building designs, on-site tuition, training manuals, factory tour and access to builders who are proficient with the system. Ancillary plaster products and components are also available, as well as spray plastering technology to accelerate the building process. This makes us partners to Institutions and Stakeholders by bringing technical services to the smart technology training project management.

The Futurehouse walling system is made of a pre-fabricated panel with a high density expanded polystyrene core encapsulated in high tensile steel galvanised wire mesh.

Panels are supplied in standard sizes; 1.2m wide x 2.5, 2.75 and 3m height. Custom heights can be made to order up to a maximum of 6m height / length.

Panel core EPS thickness variants of 80 and 100mm depending on insulation requirement. These sizes are to suit standard wall heights, different wall functions and cost requirements.

System benefits:

- *Thermally insulating and energy saving.*
- *Meets regulated energy efficiency building codes.*
- *Quick and easy to build even with unskilled labour.*
- *Building speed >10 times that of brick and block achievable.*
- *Structural integrity - creates a monolithic building shell tied together and fully reinforced.*
- *Suitable for high wind and earthquake zones.*
- *Sound and water resistant.*
- *Look, sound and feel of a concrete or plastered brick wall.*
- *Cost effective and easy to transport without damage.*
- *Material cost competitive with other walling systems but when factor the speed of building and reduced ongoing energy costs Futurehouse will save money.*
- *Ideal for all types of building - residential, renovations, industrial, multi storey commercial, perimeter/security walls and agricultural.*

Futurehouse walls are constructed by placing the panels in a grid of starter bars drilled in the foundations, wire tied together, braced and then conventionally plastered. Structural plaster thickness for structural panels is 20mm above the mesh. Windows and doors openings are cut out and these off-cuts are reused in the building.

Electrical and plumbing conducting is run behind the wire mesh before plastering. Any type of electrical or plumbing materials can be used with the panels.

Roof trusses are either placed directly onto the plastered panels and tied to the wire mesh or alternatively fixed to a wall plate or concrete ring beam. Any roof system can be used with the panels.

The Ikhaya Futurehouse System (IFHS) of thermally insulating walling panels is designed to improve building comfort, enhance structural performance and reduce energy required for heating and cooling in commercial, industrial, institutional and residential buildings.

The system uses expanded polystyrene systems (EPS) to provide building products that counteract the effects of rising building, electricity and labour costs

The 'sandwich' structure of IFHS wall panels consists of an 80mm thick corrugated EPS sheet core, which is encapsulated in a pre-galvanised, high tensile steel mesh cage and 35mm thick sand cement plaster for structural strength. If necessary, the plaster can be further reinforced with the addition of polypropylene fibre. The panels are factory manufactured, 2.5m high and 1.12m wide, with a finished wall thickness of 150mm.

The composition of the panels ensures high levels of thermal and sound insulation, reportedly higher than those of conventional plastered masonry walls. The panels are lightweight and easy to transport and position. Each panel has an effective surface area of 2.8m², which makes construction quick. Plastering can be done conventionally or by spray if greater building speed is required.

In construction, IFHS panels are secured directly to starter bars which are cast into the foundations of the structure and act as positional guides and vertical stabilisers for the wall panels. Each panel is secured to the next by a vertical width of overlapping mesh that is wire tied to the adjacent panel. Corners and wall joins are further strengthened by right-angled mesh pieces.

Window and door openings are cut into the wall panels where required and suitable frames installed. Electrical conduits and plumbing pipes are placed between the wire mesh and the EPS core. The IFHS construction system ensures a structurally sound building that is difficult to penetrate and prevents the formation of cracks. The system also has enhanced fire resistance characteristics. The fire rating of a standard 150mm IFHS panel is REI 120 – a fire rating of 120 minutes.

The IFHS system is designed for single- and double-storey installations, perimeter and security walls, as well as for infill panels for steel and concrete frame structures. It is Agrément and NHBRC approved.

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