

Omni-Globe

Structural Building System

Gemite Group, a World leader in the development and marketing of construction technologies is a multifaceted company specializing in composite materials and building systems. **Gemite Group** is well established in many countries around the world through Gemite and Omni-Globe Companies and Distributors.

Culminating a decade of extensive development, Gemite developed a universal structural building system **Omni-Globe**, suitable for residential and commercial multi-storey projects.

Omni-Globe System is surprisingly simple. Each **structure is built out of Omni Elements**, a large, but lightweight sections that are prefabricated off-site, or on-site (depending on the size of the project). It is almost as if assembling a well designed puzzle utilising giant Lego building blocks.

Omni Elements, usually 1.2 x 2.4 m (4' x 8'), are joined to form walls, floors and roof of the structure and are light enough to handle manually, without a need for any heavy equipment. Once the concrete slab is completed, an entire building can be erected in a matter of days using Omni Elements.

Omni-Con, a high performance Structural Concrete is spray applied to the exterior and interior of all walls to complete the Omni-Globe Structure. The finished structure is exceedingly strong and durable even when attacked by hurricane or earthquake. Tests performed at the University of Toronto showed that one Omni-Globe element carries a load of 30 metric tons (70,000 pounds). Therefore, a small 60 m² (600 ft²) house can carry the load of 40 fully loaded trucks.

Omni-Globe System fulfils the urgent demand for quick production of high quality, inexpensive, and safe housing anywhere in the world. **Omni-Globe Building System** is structurally and economically suitable for projects ranging from low cost housing to prestigious commercial buildings.

Structural Components of Omni-Globe System

- **Lightweight Steel Channels** form the perimeter of the element.
- **Insulating Core** provides high insulating and acoustical value.
- **Structural Skin**, a fibre-reinforced, non-combustible and high performance composite, applied 12-15 mm (1/2" – 3/4") to both sides of the element completes the structural element and provides impact resistance.

Features & Benefits of Omni-Globe System

- **Total Flexibility & Adaptability** to local market requirements and design versatility of the **Omni-Globe System** is unparalleled by any other building system. The building configuration and roof pitch is unrestricted. Using design variations and finer finishes, a low cost house can become a luxury home. The finished **Omni-Globe Building has a Solid Concrete look**, unlike many prefabricated (panellised) systems.

- **Local Materials** are used whenever available. Most components of the **Omni-Globe System** are easily fabricated on site. Only the **Omni-Con Concentrate** must be obtained from Gemite. One 13 m (40') container is sufficient for 8 - 15 houses, thereby minimising freight costs.
- **Low Labour Cost & Local Employment.** Unskilled labour can be easily trained to assemble and erect **Omni-Globe System** elements.
- **Transfer of Technology** satisfies local government requirements with respect to the training and employment of local labour and benefits the local economy and people.
- **Set-up Costs** are extremely low. Only a mixer, pump and simple basic tools are required. A small shed or covered enclosure is all that is required to assemble the elements that are light enough to be manually erected.
- **Rapid Construction** - a total house can be erected in 3 to 5 days using only a 3 to 4 man crews. A 55 m² (600 ft²) unit takes only 250 man-hours.
- **Impact Resistance** - the impact resistance of the stress skin exceeds 200 in-lbs when tested using the penetration of 5/8" rod and is resistant to vandalism and abuse.
- **Corrosion Resistance** is assured by using galvanized steel channels at the perimeter of each element. **Omni-Con Structural Skin** provides additional protection.
- **Sound Resistance** of the **Omni-Globe** wall is similar to a conventional concrete block wall.
- **Fire Resistance** - the **Omni-Con Structural Skin is completely Non-Combustible** and the fire rating for typical wall, including two 15 mm (3/8") layers, provide approximately 45 minutes to 1 hour rating.
- **Earthquake & Hurricane Wind Resistance** – system has Excellent Durability under the most adverse climatic and atmospheric conditions. **Omni-Globe System** resistance to earthquakes and hurricane-force winds surpasses those of rigid systems such as concrete, masonry or wood frame structures. **Omni-Globe System** is highly resistant to damage and satisfies the stringent Florida's hurricane and California's very strict earthquake requirements.
- **Design Flexibility** - unrestricted layout, pitched or flat roof, doors and windows located where desired. Ease of modification and alteration such as room and floor additions combined with unlimited wall and roof finishes makes it the designer's choice. Initial building designs can easily be modified to accommodate the edition of extra floors or rooms. Gemite roof and wall finishes offer an endless variety of colours and textures. No other building system offers such flexibility in design.
- **Environment Friendly** - all materials in the systems are non-toxic and can be recycled. All the materials resist decay, termites and other vermin.
- **High Insulating Factor** - climatic conditions from the extreme heat of the Sahara to the icy cold of the Arctic can be satisfied. The thickness of **Omni-Globe System** wall and roof elements can be easily and economically modified from 10 - 250 cm (4" - 10") without any tooling or equipment expenses.
- **Low Weight** – lightweight elements eliminate the need for cranes and heavy lifting equipment and reduce transportation costs.

Omni-Globe System has a high insulation factor that provides comfortable housing from scorched desert plains to the frozen Tundra. The insulation core also acts as an effective sound barrier. The Gemite **Tuff-Cote** finishes brave the harshest climates. Fade resistant and flexible, they withstand both the bleaching sun and the stress of continual freezing and thawing.

Omni-Globe System housing passes the most stringent fire regulations and safety codes. Environmentally friendly, **Omni-Globe System** materials are non-toxic and do not contain CFC's. In hurricane or earthquake situations, **Omni-Globe System** houses have enough flexibility to absorb the stress caused by high winds and upheavals.

The versatility afforded by **Omni-Globe System** impresses the most demanding designers. Clients can choose the number and placement of doors and windows. Roofing can be either flat or pitched. **Omni-Globe System** can accommodate any layout a designer has in mind. The strength of steel channels allows for rooms of all sizes. Initial building designs can easily be modified to accommodate the edition of extra floors or rooms. Gemite roof and wall finishes offer an endless variety of colours and textures. No other building system offers such flexibility in design.

Omni-Globe System offers the most cost efficient method of construction. The use of lightweight materials reduces shipping costs. With the exception of the Structural Skin Concentrate, all materials used in **Omni-Globe System** are commonly available. The lightweight elements are erected by hand, eliminating the need for cranes or expensive lifting machinery. Unskilled local labour can easily be trained to build **Omni-Globe System** housing. The number of man-hours required to build a house is greatly reduced by the structural building system. **Omni-Globe System** has made quality housing available at a reasonable price.

The **Omni-Globe System** houses can be built, on a mass production basis, for less than US \$250.00 per m² (US \$25.00 per ft²) of floor area. This price includes all materials and labour for exterior and load bearing walls, floor, roof and interior partitions including wall & roof finishes. Utilities (electrical, plumbing, heating), kitchen & bathroom fixtures and cabinets, doors, windows, concrete slab, architectural and structural design and any approvals & fees are not included.

Gemite offers Licensing, or a Turnkey operation for large projects. All engineering, training, and technical support is provided as part of the package. Our goal is to provide **Total Customer Support**.

Gemite Group of Companies

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