



GULF CONCRETE TECHNOLOGY

# SCIP Building System

Made in USA



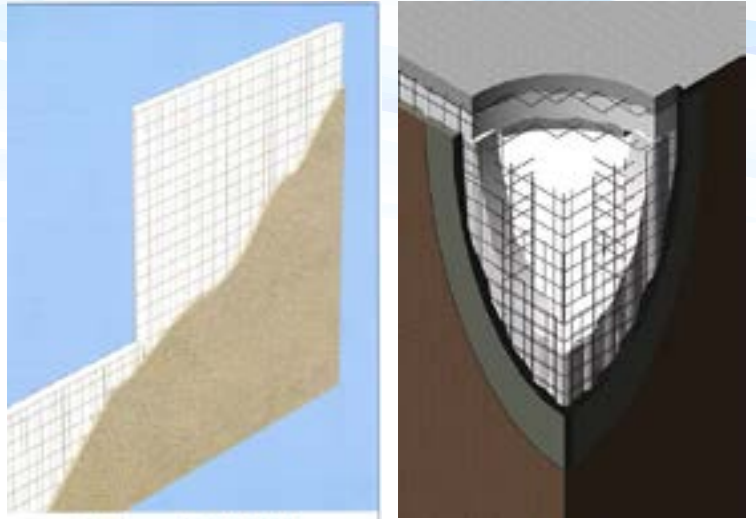
[www.gctm2.com](http://www.gctm2.com)

**GCT insulated concrete components are prefabricated lightweight structural sections consisting of an expanded polystyrene (EPS) core sandwiched between two layers of galvanized steel welded wire mesh.**

## Single Mesh Wall Component

Perfect for walls, partitions, claddings, floors and roofing in civil or industrial constructions.

The single component covered with the high strength concrete mortar can be used as a loadbearing structure in up to four story buildings or more if accordingly designed.



## Landing Section

A structure that connects two stair sections between floors. It is used when there is not enough room for a continuous stair run.



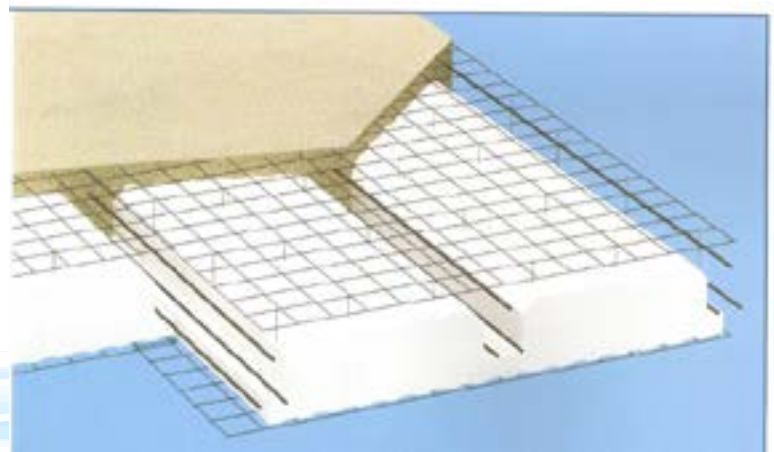
## Stairs Section

The Stair Section provides for a strong and lightweight structure. It is made up of a polystyrene (EPS) block, shaped according to design requirements, coated with two layers of steel wire mesh assembled with electro welded steel wires. The stair panel suitably reinforced and finished on site with high strength concrete mortar can be used to build stairs up to 20 ft. in length. External finishing such as tiles and marble can be applied to this concrete surface.



## Structural Roof and Floor Components

The floor and roof components with or without RC provides great advantages such as lighter structures, great insulation and fast assembly time.



# Methods of Construction



## Ease of handling and simple assembling

The components can be manually positioned by just one person without the use of lifting equipment. This process speeds up the construction without the use of specialized equipment.



## Chases for Plumbing and Electrical Conduits

Before the concrete mortar is placed on top of the panels, the insulation and steel wire can be easily cut to allow concealed placement of plumbing and electrical lines. The laying of the systems is easy, fast and clean, since it does not require any masonry work. A heat gun can be used to melt the polystyrene prior to the placement of the electrical, communications and/or plumbing lines.

## Mortar / Plaster Application

Once the components have been correctly positioned and the electrical and plumbing is in place, Structural Mortar is applied to the panel surface. A suitable mortar application equipment such as the M-Tec Monomix is used.



# Mortar Application

An ASTM C-387 normal weight mortar achieving 4,000 psi at 28 days is sprayed onto each side of the SCIP in the field at the job site to create a monolithic structure.

## Carmelo Structural Mortar Mix



Structural Mortar is a single component Portland cement based plaster containing admixtures for superior bonding strength. Depending upon application, Structural Mortar Mix may be sprayed or hand-toweled. The product contains the right proportions of fine aggregates for enhance characteristics during placing and finishing. Packaged in 50 lb bags, Structural Mortar Mix is simple to use, only requiring the addition of water at the jobsite

### Advantages:

- Special design mix for EPS Systems
- 4000 psi strength
- High adhesion
- Longer durability
- Smooth finish
- Resistance to sulfate & carbonate attacks
- Less prone to cracking
- Environmentally Friendly

## Mortar Application Equipment for GCT Structural Components

We recommend M-Tec Equipment



**M-Tec Duo Plus**



**M-tec Mono Mix**

- Over 500% increase in productivity
- Quality Assurance
- Reduction in waste and loss of material
- Total control of material inventory
- Reduced dust emissions

# Technical Characteristics and Advantages of GCT Insulated Concrete Structural Panels



**Sustainability and Energy Savings-** The thermal comfort of structures built with the GCT SCIP system is achieved by our insulating core of EPS and minimization of thermal bridging. Energy consumption is dramatically reduced and favors strategies aiming at sustainable development.



**GCT components are Cost Effective, Energy Efficient and reduce Insurance Cost.**



**Lightness and Quick Installation** - Several projects built under various conditions, in many countries of the world and using different workers have shown a remarkable shortening of the construction time using the GCT SCIP System compared to those carried out with the traditional systems. The use of the industrial system optimizes the construction process and reduces labor cost.



**Hurricane Resistant** - Structures built with the GCT SCIP system have proven throughout the years, their capacity to withstand the forces exerted by hurricanes and tornadoes when designed accordingly.



**Fire Resistant** - The quality of the insulation (EPS) core used for the GCT SCIP are of the self-extinguishing type: moreover, the concrete layers which cover them on each side, protect them from combustion. A standard PSM80 Wall Component, has been tested for 1 hour fire resistance rating according to the ASTM E-119.



**Earthquake Resistant** - Laboratory tests carried out on a SCIP prototype, have shown that the structure withstands, strains greater than those calculated for a First Class Earthquake regulations.



**Load Resistant** - Laboratory tests have proven the high load capacity of the GCT SCIP component. Compression tests with center load carried out on a finished single panel 10 ft high, have shown strengths in excess of 20,000 lbs. /ft.



**Architectural Freedom** - We offer a full range of building elements; load bearing walls, partition walls, floors, roofs, and stairs. Large spans and geometric shapes and curves are easily obtainable with our components.



**Soundproof** - The GCT System offers a great barrier to sound.

**Wide choice of finishing:** Carmelo Mortar Mix with superior bonding strength is easy to place and finish with desired textures as specified by architects and designers.

## GCT Panels

GCT Structural Concrete Insulated Components (SCIP) are prefabricated lightweight structural sections for all building needs. The sections consist of an EPS core that is sandwiched between two layers of galvanized high strength steel welded wire mesh. A galvanized steel connector wire is pierced through the EPS core and welded to each of the outer galvanized steel welded wire mesh layers. This meshwork is made from steel having a minimum yield of 87 ksi and a minimum fracture of 99 ksi. This configuration complies with ACI, section 3.5.3.5 and IBC, section 1903.

GCT SCIP components are covered in the field, with a high strength mortar compliant to **ASTM C-387** and **ASTM C-270**, such as Carmelo Structural Mortar Mix.

**GCT SCIP System is Manufactured with M2<sup>®</sup> Technology and our proprietary design meet the following requirements under the Technical Evaluation Report performed by Structural Building Components Research Institute (SBCRI):**

Applicable Codes and Standards:

- 2006, 2009 and 2012 International Building Code (IBC)
- 2006, 2009 and 2012 International Residential Code (IRC)
- ACI 318 - Building Code Requirements for Structural Concrete

Technical Report (TER) on Limit State, ASD and Foundation specifications.

Technical Report on fire Resistance Ratings - IBC Section 721

Ballistic Test UL - 752 and NIJ Level II and III

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