THE TRIDIPANEL BUILDING SYSTEM HAS TREMENDOUS FLEXIBILITY: IT IS USED IN CONJUNCTION WITH ALL OF THE BUILDING TRADES. IT MAY BE USED IN PLACE OF WOOD OR METAL-FRAMED WALLS, MASONRY BLOCK WALLS OR PRE-CAST PANELS. TRIDIPANEL IS AN EXCELLENT STRUCTURAL SYSTEM FOR FLOORS, CEILINGS AND ROOFS.

SAVES CONSTRUCTION TIME  GREATER STRUCTURAL INTEGRITY  DESIGN FLEXIBILITY
Tridipanel Systems

Hadrian Tridi-Systems is the direct distributor for Tridipanel in your area. Hadrian Tridi-Systems is involved with the marketing, promotion and sales of Tridipanel. Hadrian Tridi-Systems will help you with cost-effective suggestions, and with engineering and architectural work. Hadrian Tridi-Systems can help convert existing conventional projects to Tridipanel. Hadrian Tridi-Systems assists its customer with placing orders and ensures direct delivery to your job sites. Hadrian Tridi-Systems offers expertise training for in-house employees and upon request can help select qualified subcontractors. We can also help furnish qualified general contractors. For further information please refer to our website: www.tridipanel.com

EVO corporate offices

Manufacturing assembly line

Distribution and delivery services

In 1994 Specifier Magazine published an article documenting the successful construction of Effingham County’s correction facility built out of the Tridipanel System. Specifier said that the Tridipanel System is an excellent innovative system providing security at a low cost.

Habitat International supporter ex-president Jimmy Carter and 400 volunteers built 11 homes and a day care center out of the Tridipanel System in one week. Carter and Habitat have continued to build homes in North America using the Tridipanel System.

Building Codes Tridipanel complies to

ICBO Report NER-454

ICBO International Conference Building Officials
CABO Council of American Building Officials
SBCCI Southern Building Code Congress International, Inc.
BOCA Building Officials and Code Administrators
HUD Housing Urban Development (SEB# 1120)

NES National Evaluation Service, Inc. (NER-454)
Miami Dade County Building Code Compliance Office
American Society for Testing and Materials
American National Standards Institute
Copies of the above reports available upon request.

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Website: www.tridipanel.com
The Tridipanel is a prefabricated panel

This extremely strong structural product consists of a super-insulated core of rigid expanded polystyrene sandwiched between two-engineered sheets of eleven-gauge steel welded wire fabric mesh. To complete the panel form process a nine-gauge steel truss wire is pierced completely through the polystyrene core at off set angles for superior strength, then welded to each of the outer layer sheets of eleven-gauge steel welded wire fabric mesh. These three elements are joined by EVG’s state of the art manufacturing equipment producing a THREE-DIMENSIONAL lightweight panel that due to its characteristics makes it one of the strongest building materials you can find.

Polystyrene Core

The poly core can be ordered in 1 lb or 2 lb densities. The thickness and weight of poly will alter the thermal barrier and R-value. The poly core of the Tridipanels can be ordered in thickness of 1 1/2 to 5”. The polystyrene is a non-flammable material as tested under ASTM E84. The smoke rating is less than 450 as a result of A.S.T.M. E84. Thus, we conclude that our material is non-flammable and non-toxic if exposed to fire. The poly core is also water resistant. The A.S.T.M. test proved maximum water absorption of 2.5% for 1 lb. density. Polystyrene is an inert, organic material. Poly provides no nutritive value to plants, animals or microorganisms. The poly will not rot and is highly resistant to mildew. Aging has no effect upon the performance of poly. Poly can withstand temperatures from sub-freezing to 180 degrees, assuring long-term performance.

2 x 2 Inch Wire Fabric Mesh

The Tridipanel consists of a welded wire space frame integrated with a poly insulation core. The Tridipanel receives its strength and rigidity by the diagonal nine gauge cross wires welded to the 2”X 2” wire fabric on each side. This produces a truss behavior which provides rigidity and shear transfer for full composite behavior. The diagonal nine gauge cross wires are pushed through the poly core and welded with automated equipment. The welded-wire 2”X 2” fabric conforms to A.S.T.M. A-86. The nine gauge diagonal cross wires as well as the 2”X 2” wire fabric used in the fabrication of the panel, conform to A.S.T.M. A-62. Please note the photo on the left. You can see the nine gauge wires where the polystyrene has been removed.

Nine Gauge Wire Truss

Cement Application

The cement is applied over the welded wire mesh. The polystyrene core acts as backing for the cement. It is at this time the panel gains its anomalous strength. The cement can be hand or machine applied.

Tridipanel Core Density and Steel Mesh Styles

Dimensions of the panels are manufactured from a starting width of 4’X 8’ lengths. The panels can be prefabricated up to (40’ in length) in (8’ increments). Wire gauges available are 11, 12.5 and 14 and may be ordered in bright or galvanized metal.

<table>
<thead>
<tr>
<th>POLYSTYRENE CORE THICKNESS</th>
<th>OUTER LAYER WIRE MESH TO MESH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5’</td>
<td>2.5”</td>
</tr>
<tr>
<td>2.0’</td>
<td>3.0”</td>
</tr>
<tr>
<td>2.5’</td>
<td>3.5”</td>
</tr>
<tr>
<td>3.0’</td>
<td>4.0”</td>
</tr>
<tr>
<td>3.5’</td>
<td>4.5”</td>
</tr>
<tr>
<td>4.0’</td>
<td>5.0”</td>
</tr>
<tr>
<td>4.5’</td>
<td>5.5”</td>
</tr>
<tr>
<td>5.0’</td>
<td>6.0”</td>
</tr>
</tbody>
</table>

Please request a price list and information on custom products. We can design to your specific needs for your projects.
A complete installation manual can be provided upon request.

Securing the Tridipanel to the slab.
The rebar is embedded within the concrete slab. The panel is placed over the rebar, through the open space between the polystyrene core and the wire mesh. Once set, the rebar is fastened directly to the wire mesh by hand with tie wire. It is critical the rebar be installed in a straight line so the rebar fits easily into the cavity between the polystyrene and the wire mesh. It is important to make sure the rebar is completely exposed so it becomes monolithically enclosed with the shotcrete or cement application. Should the building department or engineer require additional tie downs, the polystyrene core can be removed from the base of the panel. The panel is then set in place over the required tie-downs and cemented in place. Another option for placing the rebar in the concrete slab is to drill the concrete slab and pour epoxy in the cavity placing the rebar within its confines. Typically, the spacing of the rebar is 24" on center.

Electrical and Plumbing Installation.
The installation of electrical or plumbing is achieved by removing the polystyrene core to create a cavity that electrical conduit or plumbing piping may be installed into. The polystyrene is approximately 3/4 inch off the wire mesh so that you have a space to install these products. If this opening needs to be greater, the polystyrene core can be removed with a small keyhole saw or butane torch. The polystyrene will not burn, it will shrink or melt leaving a cavity. The electrical or plumbing is then installed into the cavity. For further information please see instruction manual.

Window and Door Installation.
The window and door openings may be cut out with the use of three primary tools, a reciprocating saw, a set of 18" bolt cutters or pneumatic cutter, and a small hand saw to remove the polystyrene. It is recommended that a caulking sealant compatible with the polystyrene core be used to seal the jamb to the polystyrene core. For residential construction, wood jambs of treated material are then fitted into the openings. The windows and/or doors are then fastened to the treated jambs. For commercial use, pre-finished concrete openings are created. The windows and doors are then installed into the openings, as they would be into a typical masonry block structure. For further information please refer to instruction manual.

Application of cement and stucco to Tridipanel.
The Portland cement is applied either by hand or machine application on both sides of the panel. This part of the operation is very specialized. We recommend a licensed plastering contractor for this part of the operation. For architects with a special finish in mind we would like to mention that the architectural foam molds or metal trim can be incorporated into your design to achieve the desired finish. A few of the above-mentioned might be fry reglets, point to point reveals, parting screw etc. The versatility of numerous types of plaster finishes or stucco finishes will work on interior and/or exterior walls. For superior strength and accelerated schedules we recommend Rapid Set Eisenwall Cement Products. Almost any type of finish your imagination can conceive will work such as stucco finishes, brick, mini-brick, stone, stone facing tile and any other product that can be applied to cement.

Creating bond beam with Tridipanel.
A bond beam is used to create large openings, or to strengthen large areas of ceiling or to help support roof structures. All bond beams created should be pre-approved by a certified engineering firm. Removing the polystyrene core and installing rebar creates the bond beam. The best method for removing the polystyrene core is a high-pressure water blaster, it takes only a matter of minutes. For further information please see instruction manual.

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Flexibility

**R-Value factors for the Tridipanel.**

R-Value is a rating of the material resistance to thermal penetration. The higher the number the better the protection value. Many circumstances change the R-Value rating. R-Values change with the different thicknesses and density of the polystyrene panel core, various thicknesses of cement applied to the interior and exterior as well as fluctuation of ambient temperatures. The chart below shows the minimum R-Value Ratings you can expect using Tridipanel.

2 lb. Polystyrene Core will provide an additional 10-12% R-Rating

<table>
<thead>
<tr>
<th>Core Thickness</th>
<th>R-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5&quot; 1.0 LB Polystyrene Core</td>
<td>11.00</td>
</tr>
<tr>
<td>4.0&quot; 1.0 LB Polystyrene Core</td>
<td>18.00</td>
</tr>
<tr>
<td>5.0&quot; 1.0 LB Polystyrene Core</td>
<td>23.00</td>
</tr>
</tbody>
</table>

Polyisocyanurate Core is optional when panels are ordered.

2.5" 1.0 LB Polyisocyanurate Core - R-Value 21.00
4.0" 1.0 LB Polyisocyanurate Core - R-Value 33.00
5.0" 1.0 LB Polyisocyanurate Core - R-Value 41.00

Polyisocyanurate is a special order foam core used primarily for refrigeration purposes or specialty items.

R-Values stated are within FTC guidelines.

**Thermal value and heat loss**

The Tridipanel System has been designed with maximum environmental comfort in mind. A wood structure simply cannot compare to the comfort level available with the outstanding energy savings created by using the Tridipanel System. Tridipanel will keep you cooler in summer and warmer in winter. The modified expanded polystyrene core meets all VA, FHA and HUD thermal requirements.

*Note*: When the structure on the following page (see earthquakes) was built, sensors were installed into the Tridipanel walls to measure thermal heat loss. The results were an astonishing maximum 5% heat loss. More information available upon request.

1. No wood studs to transfer heat or cold through exterior walls.
2. The incorporation of minimum 3" thickness density of cement and variable thickness of polystyrene ranging from two inches through five inches offers an excellent thermal barrier.
3. Saves 50 to 80% of heating cost.
4. Reduces size and cost of HVAC "heating and air conditioning" systems.

**Building curved or radius walls with Tridipanel.**

You can build curved or radius walls by cutting the eleven gauge wires on one side of the panel. This will allow the panel to bend to the desired shape or radius. It is very important not to cut through the heavier nine-gauge, truss wire so that wall strength and integrity remain intact.

*Note*: The column at lower end of radius wall. Columns can be created by fastening panels together. Shelves can be created by raising a horizontal piece of panel to the wall with the use of wire mesh corner angles. Decorative openings can be created by cutting holes through the panels. These looks can be achieved in minutes. The key here is the flexibility and simplicity of the Tridi-SYSTEM.

![Radius wall and column](image)

![Creating radius walls](image)

![Cutting panel for radius walls](image)

![Basic landscape tools](image)

![Pneumatic wire fastening tool](image)
Load-bearing capabilities of Tridipanel.

The load-bearing weights that a typical Tridipanel wall will support is amazing. The typical wood frame and metal frame wall cannot compare to Tridipanel strength. A typical Tridipanel with 2.5" polystyrene core using eleven-gauge wire, 8' in height has been tested at a structural load of over 60,300 lbs.

Full load bearing chart available upon request.

<table>
<thead>
<tr>
<th>4'x8' PANEL</th>
<th>2.0'-12.5</th>
<th>2.5'-12.5</th>
<th>4.0'-12.5</th>
<th>2.0'-11</th>
<th>2.5'-11</th>
<th>4.0'-11</th>
<th>5.0'-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIDTH (FEET)</td>
<td>4.0 FT.</td>
<td>4.0 FT.</td>
<td>4.0 FT.</td>
<td>4.0 FT.</td>
<td>4.0 FT.</td>
<td>4.0 FT.</td>
<td>4.0 FT.</td>
</tr>
<tr>
<td>LENGTH (FEET)</td>
<td>8.0 FT.</td>
<td>8.0 FT.</td>
<td>8.0 FT.</td>
<td>8.0 FT.</td>
<td>8.0 FT.</td>
<td>8.0 FT.</td>
<td>8.0 FT.</td>
</tr>
<tr>
<td>TOTAL WEIGHT</td>
<td>31.18 LBS.</td>
<td>33.43 LBS.</td>
<td>39.60 LBS.</td>
<td>42.18 LBS.</td>
<td>44.43 LBS.</td>
<td>50.60 LBS.</td>
<td>55.85 LBS.</td>
</tr>
<tr>
<td>NORMAL AXIAL</td>
<td>58290.00 LBS.</td>
<td>58290.00 LBS.</td>
<td>58290.00 LBS.</td>
<td>50300.00 LBS.</td>
<td>50300.00 LBS.</td>
<td>50300.00 LBS.</td>
<td>50300.00 LBS.</td>
</tr>
<tr>
<td>STRENGTH LBS.-FT.</td>
<td>1.5&quot; CEMENT EA. SIDE OF PANEL</td>
<td>1.5&quot; CEMENT EA. SIDE OF PANEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NORMAL IN-PLANE</td>
<td>6212.24 LBS.</td>
<td>6212.24 LBS.</td>
<td>6212.24 LBS.</td>
<td>8005.16 LBS.</td>
<td>8005.16 LBS.</td>
<td>8005.16 LBS.</td>
<td>8005.16 LBS.</td>
</tr>
<tr>
<td>SHEAR STRENGTH LBS.-FT.</td>
<td>1.5&quot; CEMENT EA. SIDE OF PANEL</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Wind load capacity of Tridipanel.

The brief synopsis which follows, is from the test results report dated 1994 from Dade County, Miami Florida pertaining to the wind load capacity of Tridipanel. Three typical Tridipanel 4' wide and 10' high with 1 1/2" of cement on each face were installed vertically, side-by-side, on a concrete slab, several inches in front of a rigid back up wall with space between the panels and back up wall. The panels were tested per static-wind load test (PA202-94 manner of testing). Summary: The specimens tested herein were fully tested in accordance with the Dade County Building Code Compliance Office Protocols PA 201-94, PA 202-94 and PA 203-94. No failures occurred to the specimens, or their fastenings or anchorages.

The products described in this report comply with SFBC Sections 2309 and 2315. The panels tested at 126 lbs. per Sq. Ft. pressure, which represents over 225 mph-wind factor.

The Tridipanel system is being used on the East Coast to build hurricane and tornado proof structures.

Fire ratings of Tridipanel.

Tridipanel has the following fire-resistance ratings. (Ratings are valid for fire exposure from either side.) Fire-rating is derived from the wire mesh gauge in combination with cement thickness. See chart below.

The insulation core Type I polystyrene demonstrated a flame-spread index of 25 or less and a smoke developed rating of 450 or less when tested in accordance with ASTM-E84. The modified polystyrene core will not burn and does not contain ozone-damaging chlorofluorocarbons (CFC's) in the manufacturing process or products.

- 2.5" polystyrene core with 1.50" cement each side = 1.5 Hours
- 2.5" polystyrene core with 2.00" cement each side = 2.0 Hours
- 2.5" polystyrene core with 3.1/8" cement each side = 4.0 Hours

The fire rating increases with greater quantities of cement applied to each side. The polystyrene core will not burn.

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Earthquake

In the Southern California area of the United States, a two-story research complex was built with the Tridipanel System jointly funded by the National Science Foundation, Southern California Edison, Inc., and the University of California. It withstood two of California's worst earthquakes in forty years. The structure was struck twice, a (6.5) and (6.9) earthquake on the Richter Scale. According to Director Dr. Philippe Cohen, who was residing at the site in the Mojave Desert, the area at one point was subjected to a continuous shake lasting over a full minute which created landslides near the structure. The structure went through the shakes with zero structural effects. Complete (Earthquake) structural testing report from a certified engineering firm is available upon request.

Granite Mountain Reserve was designed by Los Angeles architect Richard Schoen and engineered by Kuppuswami Lysaght. Since the 1992 Big Bear and Landers's earthquakes the structure has survived numerous smaller quakes without signs of damage. The building was specifically designed to be an experimental structure. Sensors were implanted in the walls to measure the thermal transfer rate, the speed which heat moves through walls. Test have shown that the daily temperature fluctuation to be approximately 5 degrees. The structure had no heating or air conditioning systems.

A full report is available upon request.

Mother Nature

Tridipanel excelled in rigorous tests given by Mother Nature. For the last ten years, numerous homes have been constructed with the Tridipanel System on the East Coast, The Caribbean and Gulf areas of Mexico and the United States. The homes were built to withstand hurricane force winds. In laboratory testing, the Tridinpanes withstood wind loads of 225 miles per hour. Laboratory testing results are available upon request.

This Tridipanel home was mistakenly built in a flood zone, we have since nicknamed it the flying house. This structure was built completely out of the Tridipanel System without use of steel beams. Please note the four concrete piers at base of columns. This gives you some idea of the tremendous strength of the Tridipanel System.

Mother Nature: The massive footings at the base of the columns remained intact.

This home was one of 14 that was built by Jimmy Carter and Habitat which survived Hurricane Andrew. Everything else was destroyed in its path.

Fire Protection

Tridipanel is an ideal building product for structures in dry adverse climates where fire is a constant threat. During Santa Ana Wind Conditions in Southern California, heavily forested, high grass and brush areas are prone to fire. There have been numerous fires at this time. A structure built with Tridipanel is non-combustible, with a minimum 1.5-hour fire rating. A higher rating can easily be attained. Structures built with Tridipanel are virtually fire resistant.

This home was completely built with Tridipanel System in Malibu, California, including floors, walls, ceilings and roof structure. The owners' previous home at this location was burned to the ground. The solution to this problem was solved by using Tridipanels.
We are very excited to introduce this new innovation in construction building systems. Hadrian Tridi-Systems has an architectural and engineering staff available to help improve your current or future Design/Build projects. As the direct distributor of Tridipanel, we offer a modern cost-effective building alternative to traditional methods. Our expertise and dedication in Tridipanel extends from conception to project completion. We invite you to contact us with your inquiries, and welcome the opportunity to provide you with the technical data.

Comparing cost to other building systems

The cost is dependent upon the design and finish of your project. Every structure is as unique as a fingerprint; no two are alike. This makes analyzing the cost on a square foot basis difficult. Our product is not price competitive with (2x4) stick framing. Tridipanel is competitive with (2x6) stick framing and metal stud framing. Our product is more competitive than block. Keep in mind Tridipanel is extremely versatile and can be used with any of the above systems. For return on investment, Tridipanel beats stick framing as well as most other building systems readily. The Tridipanel accounts for a fraction of the structure’s cost. The dollars spent on the Tridipanel can be made up very quickly in energy savings alone. Over the life of the structure, the savings are quite staggering. Here is a list of just a few attractive benefits of the Tridipanel System.

Fast High Quality Construction
Time saved: 50% faster than standard construction
Speedy occupancy; saves money on construction loan dollars
Enhanced resale and marketability value

Strength and Durability
Virtually maintenance-free wall system
Saves on long term replacement costs of structure
Polystyrene panel or concrete will not decay
Monolithic design for superior strength

Safety and Security
Excellent performance in seismic zones (Earthquake Resistance)
Non-combustible structure; fire proof
Savings of 18% to 30% on fire insurance
Excellent high wind protection-up to 225mph
Insect, Termite, Rodent Resistant
Mold, Mildew, and Fungi Resistant

Pro Environment and Energy Efficient
Maximum Conservation of forestry products
Structure durability offers value for generations
Reduces consumption of fossil fuels and earth resources
Reduces size and cost of HVAC “heating air conditioning” systems
Save 50 to 90% of utility costs, heating and cooling structure

Quality, Comfort and Design Flexibility
Virtual elimination of outdoor noises
Reduce drafts and wide temperature fluctuations
Enjoy air quality virtually free of dust, pollen and allergens. Create an acoustical environment for full advantage of sophisticated sound systems and home theatres.

Testimonials
Ret. President Jimmy Carter
“The Tridipanel System is a terrific low cost building system”.

Richard Schoen, Architect, F.A.I.A.
Designer of Granite Mountain Reserve, “after the 6.9 quake in 1992, the structure showed no seismic damage”.

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Samuel Cherestin AIA (760) 942-8267
Hoak and Shah Associates, Inc. Engineers (714) 632-1665

Products
Rapid Set Cement Products,
Eisenwall TM, 3/8 Concrete Mix
Omega Products International, Inc.
Color Tek, Premium exterior Stucco

Brochure photos and design by, Cappasco Productions
Contributing photography by, DJ Farley

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