



Technical Supplies & Services Co. LLC.



# ECO HOUSING SYSTEMS

**DURAMAX**  
ESTABLISHED 1988



# HOUSE FEATURES

- Aesthetic Looks and Appearance
- Rigid Cement Construction
- Conventional Cement Wall Finish
- Superior Thermal Insulation
- Cost Savings over Cement Block
- Fast and Easy Installation on site
- Excellent Acoustic Properties
- Considerable Savings in electricity bills
- Supports Custom Architectural Designs
- Light weight
- The Most Advanced Building System





# ECO HOUSING SYSTEMS

With over 3 decades of experience as the leading manufacturer of composite sandwich panels in the Gulf region, TSSC introduces the ECO HOUSING System featuring energy efficient, high quality, easy to install yet affordable housing. Working closely with US based DuraMax Building Products, TSSC has developed a technological breakthrough in building homes using the EASY PANEL WALL SYSTEM. The product was developed to solve the current need for conventional housing throughout the Middle East and North Africa regions.

The Easy wall cement panels are manufactured to the highest quality standards and are supplied across the region to allow the rapid building of custom made single or multi family home communities. The Eco House features insulated roof, wall, and interior panels that provide the building with exceptional thermal insulation. This helps in drastically reducing the radiant heat penetration into the house from the external environment in summer and vice versa in winter, thus resulting in low electricity and maintenance costs.



TSSC is specialized in designing and manufacturing permanent pre-engineered buildings for various applications. Our highly trained and experienced project management team is committed to delivering the project within the scheduled time and well within the stipulated budget. Safe and speedy execution of the project is ensured by our staffs' commitment right from the enquiry to the handing over of the project with guaranteed attention to even the minute details of the project. This differentiates us from our competitors and we believe in maintaining a long term relationship with our clients. TSSC guarantees the supply of the best quality products at affordable prices and offers professional & personal service to each of our clients.







# EASY PANEL WALL SYSTEM

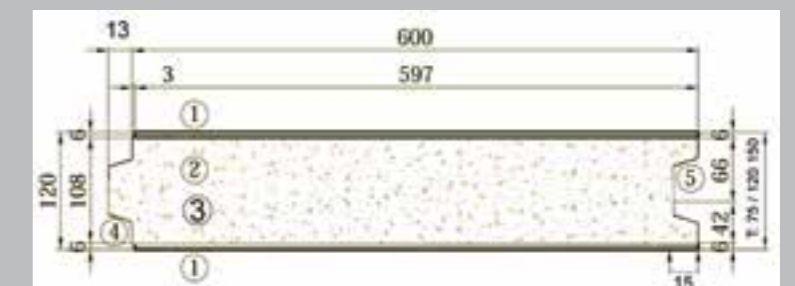
The EASY PANEL wall system is a sandwich panel wall made of a cement board on the exterior and interior walls and the cavity filled with a mix of Light Weight Cement and Polystyrene Beads. This combination of materials, provides flexibility to the customer in the use of a wall to meet many requirements. The wall delivers rigidity, strength and high insulation rating.

The system consists of panels with three different wall thicknesses: 150mm and 100 mm thick wall panels are recommended for exterior walls, while 75 mm wall is best suited for interior partitions. The electrical conduits can be embedded inside the walls, and the system offers a practical solution for all plumbing and other facility management requirements.



In order to speed the assembly process and reduce the manpower required, the panels are manufactured in 610 mm wide sections to enable easy handling. It requires only 2 people to handle the panel and the assembly can be performed using simple tools. The reduction of number of laborers and faster assembly is an important hidden value of the EASY PANEL WALL SYSTEM.

At TSSC, we have also developed a technology to produce the EASY PANEL WALL SYSTEM in mobile factories that can be set up in remote areas to ensure quick and prompt production, thus avoiding long distance shipping charges.







**EASY PANEL WALLS SYSTEM** offers many key advantages in general building construction

- Consistent High Quality Finish
- Cost Savings over conventional block wall system
- Easy Handling (no cranes required)
- Simple Construction and Assembly method
- Fast Completion time
- Superior Insulation
- Noise Reduction
- Flexible Surface Finishing

## **ADVANTAGES** (ECO-HOUSING SYSTEM)

### **SERVICES PROVIDED**

- Design (detailed drawings/blueprints)
- Complete Material Procurement
- Project Planning
- MEP
- HVAC
- Interior Finishes
- Civil Work - undertaken upon client's request to cater as Turn-key project
- Erection Works - carried out by trained TSSC erectors or skilled sub contractors as per client's request

*All works are carried out in a professional manner with design and finish that differentiates each unique project from any other buildings.*



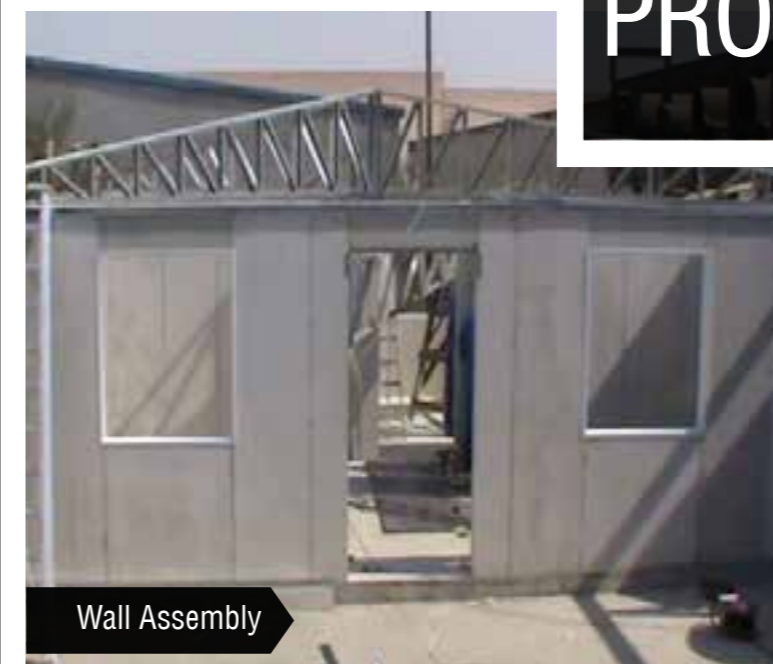


Property	75mm Panel	100mm Panel	150mm Panel
Panel Weight (kg)	60–70 kg	70–80 kg	90–100 kg
Axial Load Bearing	≥ 3.5		
Fire Resistance	≥ 3.8		
Bending Damage Load (Panel Weight Times)	Under Testing		
Sound Transmission (Rw)	Under Testing		
Sound Transmission (Rw + ctr)	Under Testing		
Fire Resistance	2 Hours	2 Hours	2 Hours
Thermal Conductivity (K)	0.0755 W/m <sup>2</sup> K		
Thermal Transmission U Value, W/m <sup>2</sup> K	0.92	0.71	0.48
Core Water Absorption	< 25% by Volume		
Surface Spread of Flame	Class 1 Approved for use in areas where walls or partitions having surface spread of flame rating of Class 0 or lower are required.		
Smoke Emission and Toxic Gas Distillation	Not recorded		
Combustibility	Deemed Non-Combustible		
Core Compressive Strength (MPa)	≥ 1.4		
Panel Compressive Strength (MPa)	≥ 3.0		
Water Penetration	No evidence of water penetration		
<b>Robustness &amp; Strength</b>			
a. Partition Stiffness	Passed as HD		
b. Surface Damage by Hard Body Impact	Tested		
c. Resistance to Damage by Impact from a Large Soft Body	Passed as SD		
d. Resistance to Perforation by small hard body impact	Passed as SD		
e. Resistance to structural damage by multiple impacts from a large soft body	Passed as SD		
f. Effects of door slamming	Passed as LD		
g. Resistance to crowd pressure	Passed @ 3.2 kN/m max		
h. Lightweight anchorage pull-out test	Passed @ 300 N max		
i. Lightweight anchorage pull-down test	Passed @ 500 N max		
j. Heavyweight anchorage (was h basin) eccentric downward loading test	Passed @ 1,750 N max		
k. Heavyweight anchorage (high level wall cupboard) eccentric downward loading	Passed @ 5,000 N max		



Foundation

## INSTALLATION PROCESS



Wall Assembly



Roof Assembly



Finishing

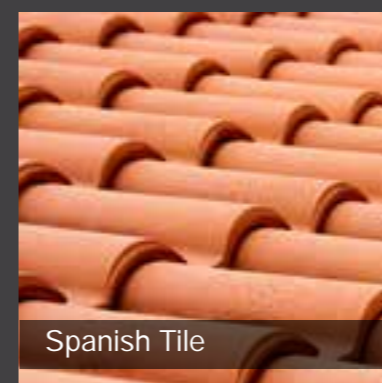


## CONSTRUCTION PROCESS

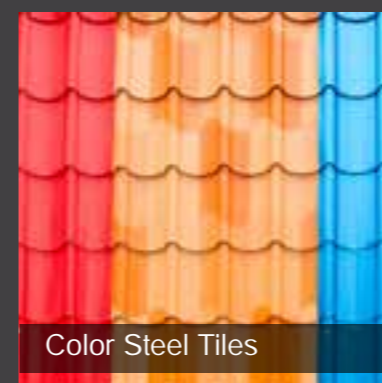
After the walls are erected, roof installed and the house built, it is time for the finishing details.



## ROOF MATERIALS



Spanish Tile



Color Steel Tiles



Synthetic Roof



Interlock Tiles

## EXTERIOR WALL FINISHES



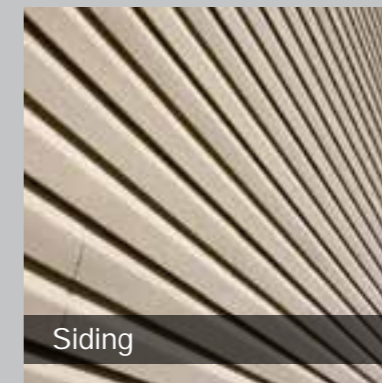
Culture Stone



Latex Paint



Stucco

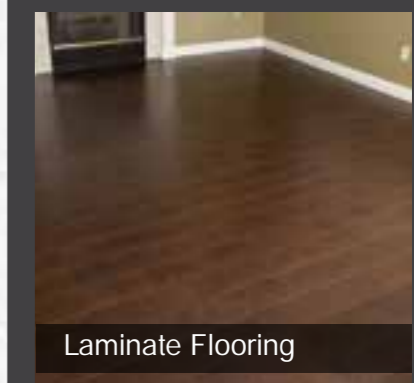


Siding

## INTERIOR FINISHES



Plasterboard



Laminate Flooring



Wall Paper



Paint



**SUPPORTING  
PRODUCTS**



ECO-HOUSING SYSTEMS

**PLUMBING SYSTEMS**



**ELECTRICAL SYSTEMS**



**LIGHTING**





**SUPPORTING  
PRODUCTS**



**WINDOWS**



**GLASS & ALUMINUM SYSTEMS**



**INTERIOR DOORS**





**SUPPORTING  
PRODUCTS**



**BATHROOM**



**KITCHENS**



**WARDROBES**





**SUPPORTING  
PRODUCTS**



**FENCES**



**PATIO COVERS**



**SHEDS**





**TWO(2) BEDROOM**  
**50 SQ.M. MODEL**



**TWO(2) BEDROOM**  
**75 SQ.M. MODEL**





**THREE(3) BEDROOM  
75 SQ.M. MODEL**

**THREE(3) BEDROOM  
100 SQ.M. MODEL**





# Registration Certificate



Certificate Number PC 108

<u>11 March 2012</u>	<u>11 March 2012</u>	<u>10 March 2015</u>
Date of Initial Registration	Date of Last Issue	Date of Expiry

*This is to certify that the following company*

**Technical Supplies and Services Co. Ltd.**

P.O. Box 1818  
Sharjah  
United Arab Emirates

*Has successfully passed BM TRADA  
Verification for Manufacture of Fire Rated Light-Weight  
Concrete Panels*

*and Complies with the following Standards  
BS 476 Part 22*

*BM TRADA Middle East Product Verification*

*Signed on behalf of BM TRADA Middle East*



MEAS: 1.2 Issued Feb 2012. This certificate remains the property of BM TRADA Middle East and must be returned on request.



TSSC, a primary member of Harwal Group is a leading manufacturer of building materials in the Middle East and has been setting manufacturing benchmarks with its engineering excellence. With over 5 decades of manufacturing legacy, TSSC has forged a strong reputation for its quality, dependability and customer service and has partnered in building some of the most prestigious projects in the region.

The company follows international standards in manufacturing its diverse range of products, follows ISO 9001:2008 quality management system and the products carry individual product certificates. With state of the art manufacturing facilities spread across Dubai, Abu Dhabi and Sharjah in UAE, Riyadh in KSA and Moscow in Russia, TSSC has one of the largest production capacity in the Middle East and maintains its leadership position with its ability to meet any volume and delivery requirements.

## RANGE OF PRODUCTS **MANUFACTURED BY TSSC**



### Building Materials

- Composite Panels
- Profiled Cladding Sheets
- Seamless Roofing System
- Glass & Aluminum Systems
- Doors & Windows



### Metal Storage Solutions

- Racking Systems
- Metal Sheds



### Cold Storage & Transportation

- Cold Rooms
- Freezer Rooms
- Refrigerated Vehicles



### Refrigerators & Coolers

- Visi coolers & Freezers
- Water Coolers
- SS Refrigerators & Freezers



### Housing Systems

- Affordable Houses
- Modular Houses
- Portacabins
- Prefab Houses
- Telecom Shelters
- Container Converted Units



### Stainless Steel Equipments

- Laundry & Kitchen
- Hospital



### Services

- Galvanizing



# ECCO

## HOUSING SYSTEMS

**Technical Supplies & Services Co. LLC**

Sharjah | Dubai | Abu Dhabi | Riyadh | Moscow

Dubai Investment Park, P.Box 77031

Tel: +971 4 8850474 Fax: +971 4 8850343

Email: [info@tsscuae.com](mailto:info@tsscuae.com), Website: [www.tsscuae.com](http://www.tsscuae.com)