



Energy Conservation Measures.



Solutions Group.

Proposal from ECM Solutions Group - 2022.





The ECM Solutions team has the skills and experience necessary to provide clients with a complete turn-key solution. With over 150 years of combined experience, the ECM team brings skills ranging from infrastructure development, risk assessment, engineering, security and public relations, to project/construction management and financial engineering.



OUR MISSION.

Energy Conservation Measures.

"It's about knowing what you have in your facility, and making it sustainable in today's world. From beginning to end."

**Quality, Reliability, Experience & Success.
Guaranteed.**

A photograph of a large wind farm with many white wind turbines stretching across a green field under a clear blue sky.

WIND

A photograph of a large concrete dam with water cascading over its spillways, creating a misty spray. The dam is surrounded by lush green trees and vegetation.

HYDRO



THE ECM TEAM IS
TRUSTED BY MORE
THAN **17,000**
SATISFIED CUSTOMERS.

A photograph of a geothermal power plant. Several tall, grey smokestacks are visible, emitting thick white plumes of steam or smoke that rise into a blue sky with scattered white clouds. The background shows a hilly, arid landscape.

GEO THERMAL

A photograph of a large array of solar panels. The panels are dark and arranged in rows, reflecting the bright light of a low sun. The sky is a mix of orange and yellow, suggesting sunset or sunrise. In the bottom right corner, there is a decorative graphic of a grid of blue dots.

SOLAR



Julius C. Poston
Founder & CEO of Stalwart
Green Global Industries.



Robert E. Oakley, Jr.
Founder & CEO

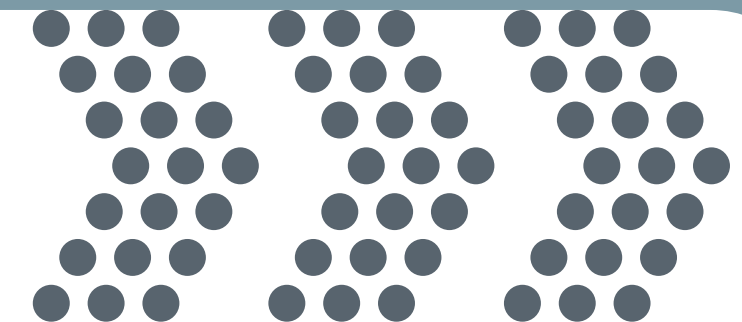
About OUR TEAM.



With over 150 years of combined experience, IP and patents for several world-changing green construction technologies, a world class team; including **Mr. Julius C. Poston** (of *Stalwart Green Global Industries, SGGI*), **Martin Linguist** (of *SSAB*), **Eaton** (the 4th largest alternative Energy Manufacturer in the World), and **ECM** (Energy Conservation Measures).

ECM is led by Founder & CEO, **Mr. Robert E. Oakley Jr.**

The company has developed & managed several environmentally aware construction projects, and will continue to do so in efforts to help save our planet with sustainable construction.





More About... OUR TEAM



Here at ECM, we use a smart building approach.

With our integrated building technology, which is wind & light resistant, we can push boundaries & meet our clients' highest expectations.



Our expertise allows for the people we work with to have an ultimate aesthetic vision for their upcoming project.

Architects are able to keep the highest standards when working with our company.

We strive to diminish the carbon footprint with the use of fossil free steel, which has a lower environmental impact.

OFFERED SERVICES.

RAILWAY DESIGN
ENGINEERING & CONSTRUCTION
ENERGY CONSERVATION & MANAGEMENT
DISASTER MANAGEMENT
INFRASTRUCTURE PROTECTION
EPCM SERVICES

ECM SYSTEMS ARE APPROVED BY...

FEMA
THE WORLD BANK
MAJOR INSURANCE COMPANIES
US AID

ABOUT...

Our Strategic Partnerships.

Energy Conservation Measures.

We would like to start by thanking you for considering our proposal.

Our relationships with strategic industry partners such as WSP & EATON, allows our team to offer you the most comprehensive partnership, outshining the competition.

Now is as good a time as ever to align with a partner who is prepared to bring maximum value to your project, while supporting your growth & sustainability practices along the way. At ECM, we believe that our partnership, as well as the one you would be welcomed into with WSP and EATON, is unstoppable & will do great things for the sake of our planet.

We are extremely grateful for this opportunity at ECM. We would like to thank you in advance for your time and consideration.





ESTABLISHED IN 1969

ECM partnered with a **WORLD RENOWNED** company, who provides & services, licensed engineering requirements countrywide.

We are SO proud to announce our strategic partnership with...

Worked on Disaster Management & Forensic Engineering Services, for *Haiti, Mozambique & Kenya*.

Infrastructure Development Projects & Disaster Management for **HURRICANE** Sandy & Katrina were taken on by ECM.

ECM X EATON.



Our strategic partnership with EATON has been ongoing for the past 25+ years. Together, our range of experience in the Solar Energy Industry has taken place all around the world. This experience allows us to be extremely diverse, and come up with unique solutions.



Past Projects Involve Experience with ...

- Energy Engineering & Consulting.
- Facility Optimization, on New & Existing Projects.
- High Performance, Green Building Design.
- Advanced Project Implementation.

Experience Originating Mostly From Africa - Kenya, Zambia, Mozambique & Quelimane.



BUILDING THE PRESENT WITH THE FUTURE IN MIND.



Meteorologists have been telling us for **YEARS** that things are changing & we should begin planning for a harsher environment.

Not only will the frequency increase, but stronger winds, rain, tsunamis, floods, extreme dry climates, and heat waves are in our near future.



ECM has developed company materials, building systems, and methodologies to handle all of these harsh weather patterns that are expected to come.

We aren't sure if the end of the world is near, but we want our clients to survive and be prepared for whatever is thrown our way.



Experience Value, Without Sacrifice.



Engineered Custom Solutions for Each Projects Specific Special Requirements.



From Floor to Ceiling, Interior to Exterior, ECM Ultra Panels Provide Unparalleled Strength & Durability.



They Not Only Reduce Build Times, but Increase Facility Life & Safety too.



Concrete Panels

.....
Traditional.



Why settle when you can have *THE BEST* Concrete Panels with ECM Solutions Group?



ABOUT...

Traditional Concrete Panels

1. Extremely dense, heavy in weight.
2. Limited flexibility when it comes to design and diversity.
3. Uses steel, which leads to issues with rusting.
4. Water can penetrate the panel.
5. Uses less windows creating limited natural light.
6. Inspection and controls are needed.



Concrete Panels

Standard.



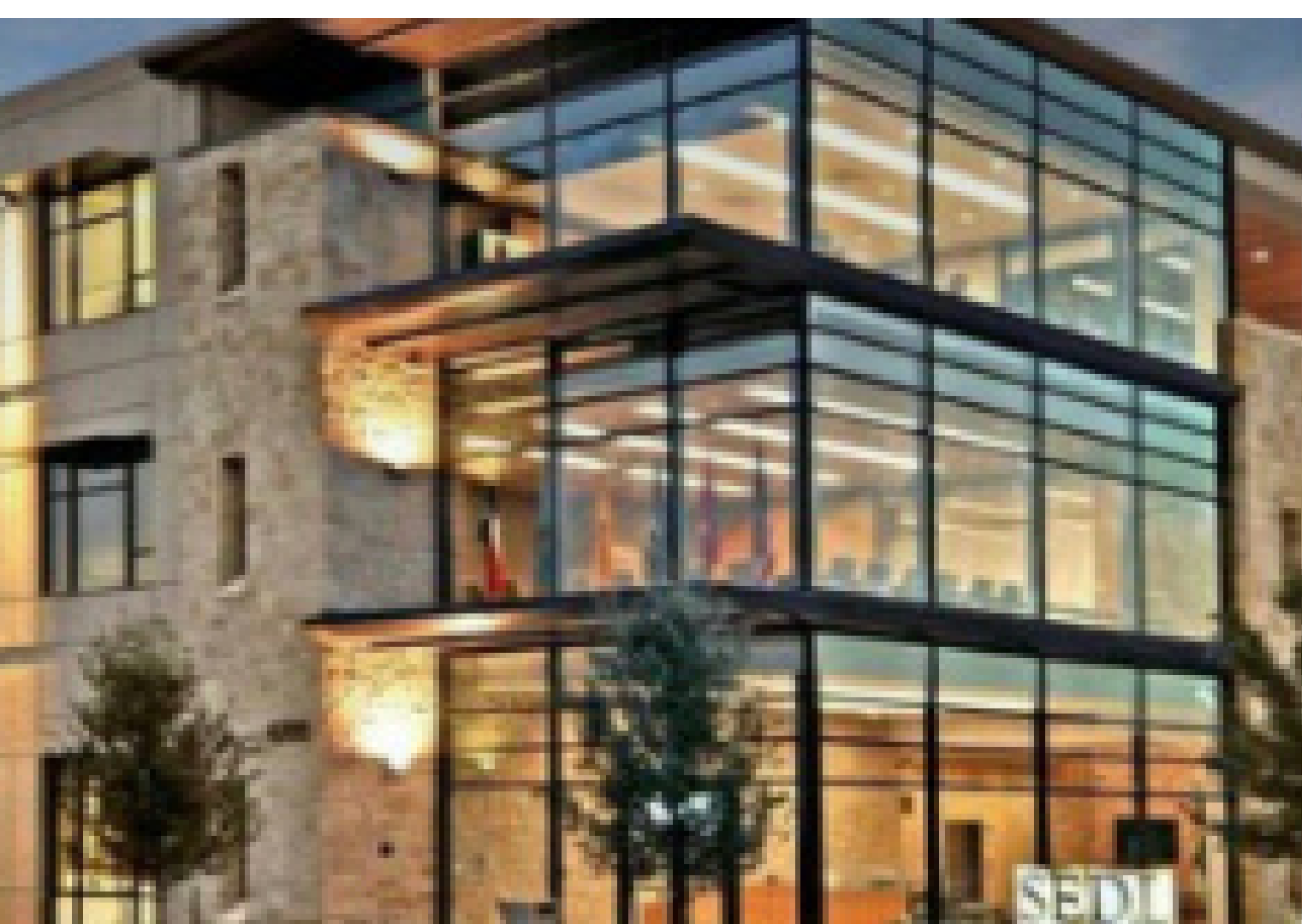
Why settle when you can have *THE BEST*
Concrete Panels with ECM Solutions
Group?

ABOUT...

Standard Concrete Panels:

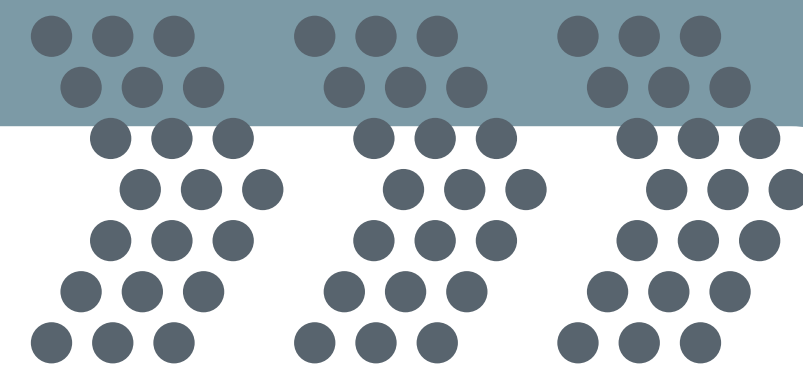
1. Before the project can begin... The ground grading & building pad must be prepared, delivery of materials (plastic, spacers & steel), must also be made to site.
2. Panel needs to be laid out, assembled & inspected.
3. Not to mention- Pouring concrete requires a crew, trucks, concrete schedule, and a deputy inspector.
4. It is subject to weather conditions and changes.
5. **TIME is MONEY.** Once panels are poured, time is invested while they lay on the floor covered & insulated to cure properly.
6. Once problems are sorted out, inspections are required.
7. Panels must then be raised, stood upright, moved & braced for assembly.
8. After assembly, panels are filled with supporting materials which tend to breakdown with time.
9. Repairs are needed to irregular or damaged panels.
10. Additional waterproofing **MAY** be required for bad weather conditions.
11. Standard panels tend to have a lifespan, they would need to be redone in the future.





ECM

ULTRA PANEL



SHOWCASING ECM

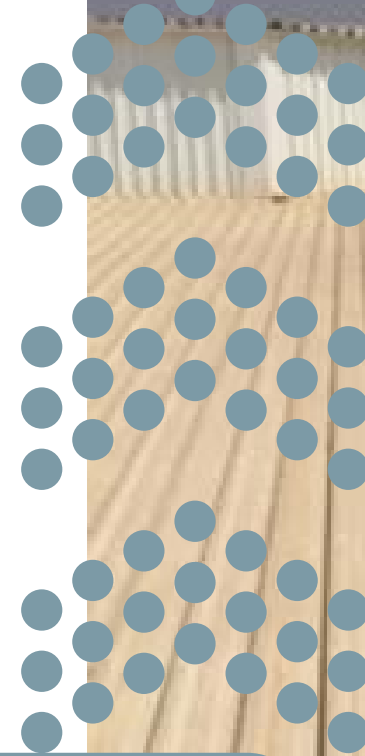
PRE-CONSTRUCTED ULTRA PANEL





ECM ULTRA PANEL

Pre-Constructed Ultra Panel



Building with **EFFICIENCY** and
ENVIRONMENTAL AWARENESS.

1. Ultra Panels are pre-constructed in the project design process in order to fit internally AND externally. Surfaces CAN be customized.
2. Panel face can be smooth, or look like stone, rock or brick.
3. DIVERSE. Created and managed for creative design & flexibility.
4. No downtime when panels are being brought to the site.
5. Panels are dimensionally correct for straight walls and flat surfaces, eliminating any corrective measures needed for crooked parts.
6. Panels are 50% lighter.





Possible Variations for the FOUNDATION.



Building with Efficiency &
Environmental
Awareness.

ULTRA PANEL.

Variations can be placed...

- On A Grade.
- On Pillars.
- On Unstable Ground, where Panels are able to Keep the Shape.
- In Water with Piers.



Additional Benefits



- Materials hold up exceptionally well in extreme weather conditions such as harsh rain, wind, cold, heat, and not to mention- Hurricane resistance up to 175 mph.
- Insulation value of R-50.
- Seismically durable.
- Steel truss system is premade for wall and roof panels enabling faster building with proper engineering.
- Waterproof resulting in 0 roof leakages.
- Many applications include adding natural light, structural glass can be part of the design.

WHY SHOULD YOU CHOOSE PRE CAST PANELS MADE OF HIGH PERFORMANCE CONCRETE & STEEL MESH?



Features & Benefits:



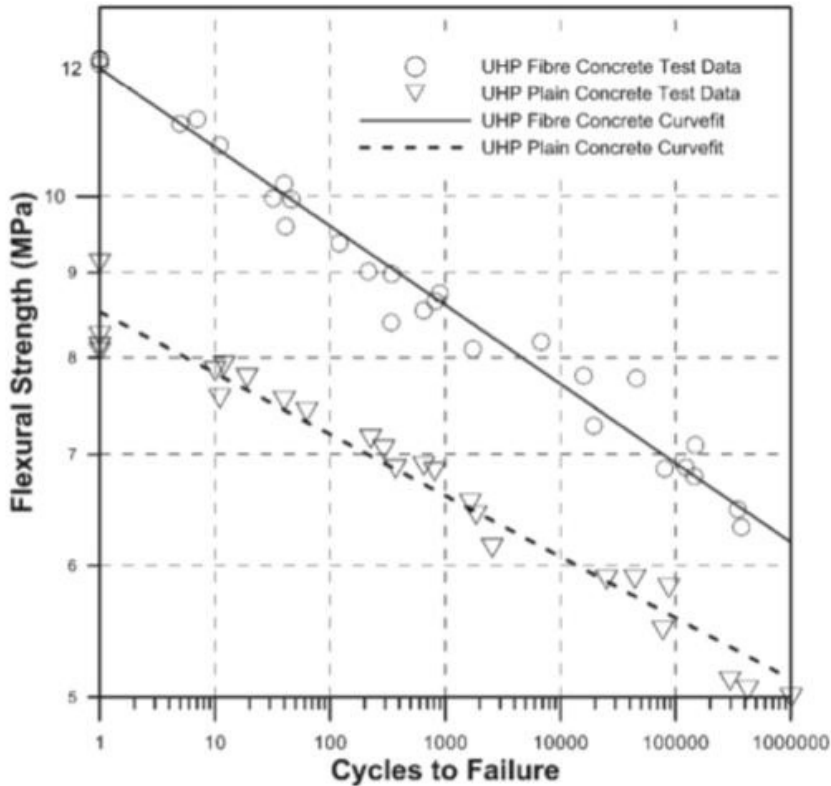
FEATURES

BENEFITS

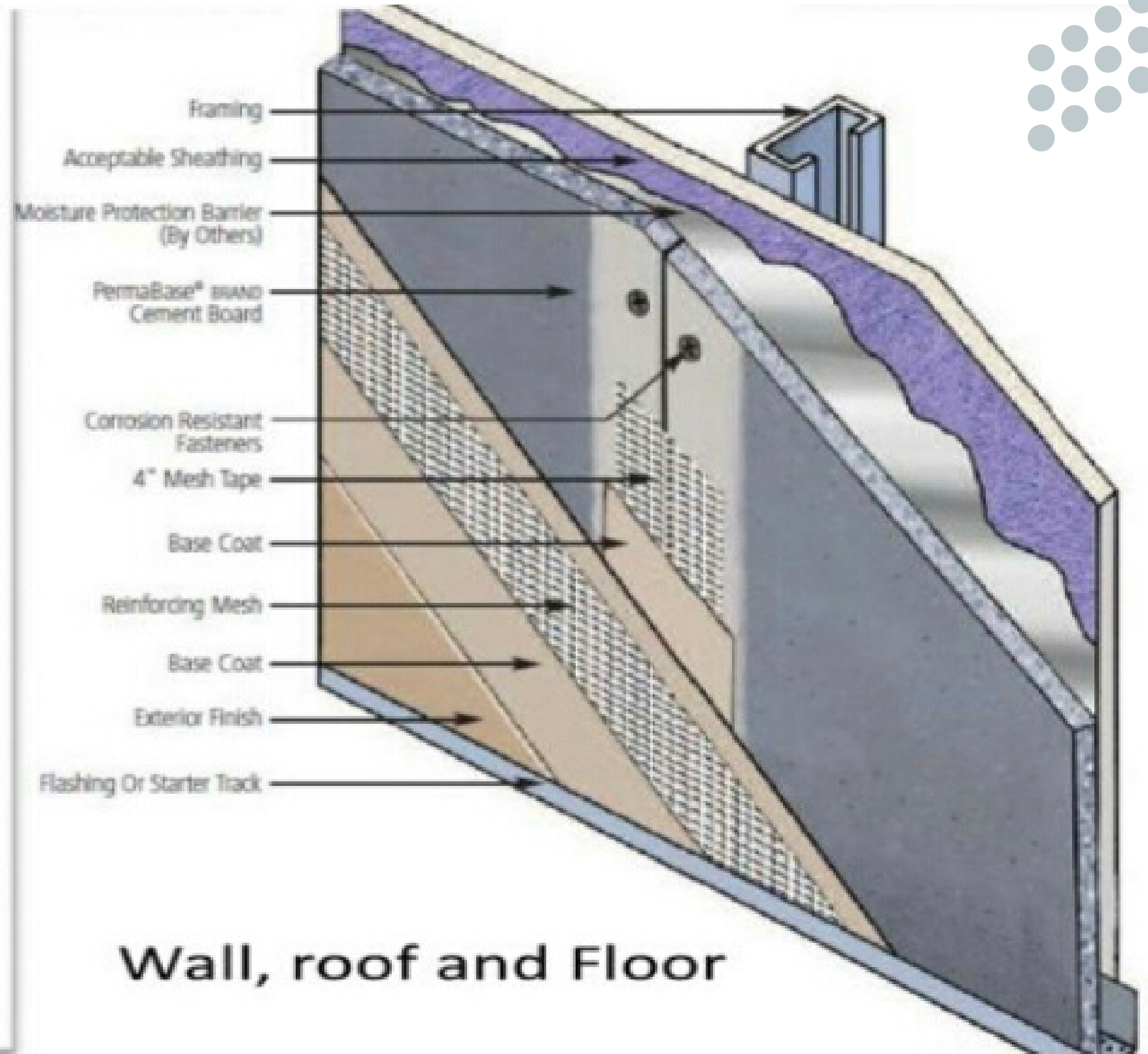
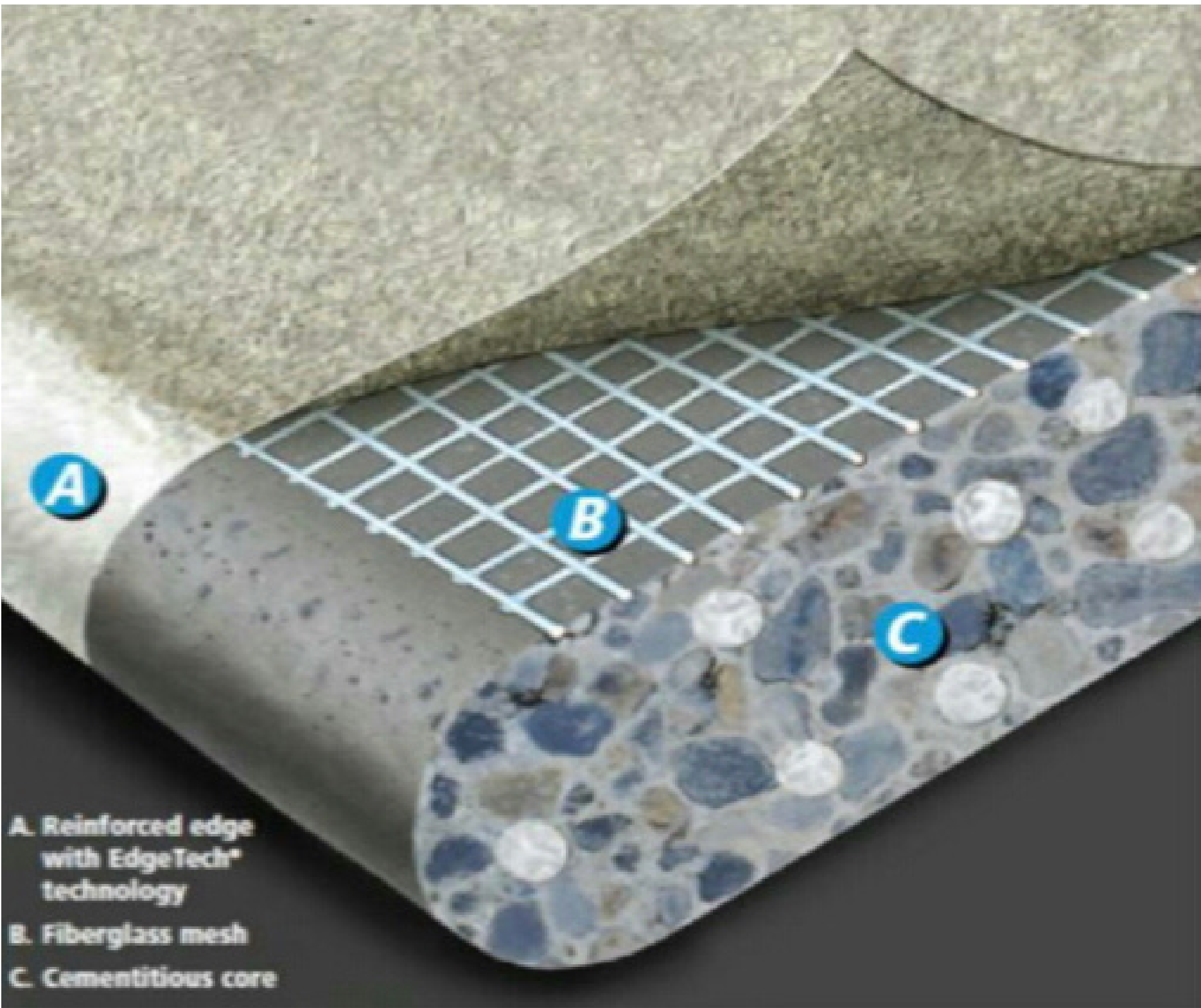
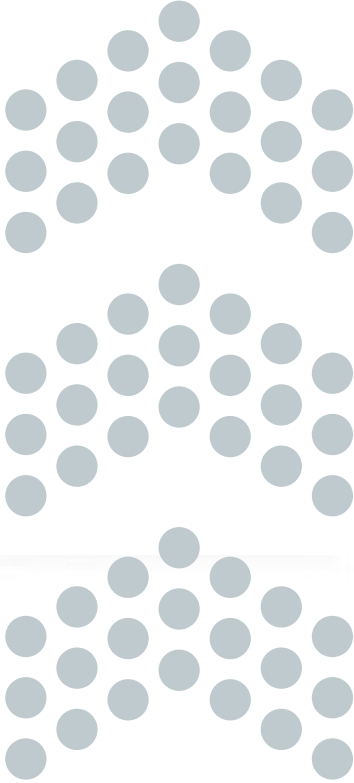
Pre-cast panels made with Ultra High Performance Concrete	<ul style="list-style-type: none">• Extreme abrasion-resistance of upper surface, for maximum performance• Extremely wear resistant to high traffic• Resistant to chemical abrasion• At full strength when installed, and once grouted, can be used almost immediately (2 to 12 hours)• Rapid installation process• Shrinkage cracking will not occur as there is zero heat out-put and drying shrinkage
High level of performance: average compressive strength of 140MPa	<ul style="list-style-type: none">• Substantially improved strength of the trafficable surface
Engineered to last longer	<ul style="list-style-type: none">• Substantial increase in product life• Cost effective• Time efficient• Reduced downtime• Increased productivity• Improved safety
High fatigue resistance	<ul style="list-style-type: none">• Great increased life under bending loads
Impact resistance	<ul style="list-style-type: none">• Long lasting in high impact environments such as scrap metal yards, chemical loading yards and mines
High content of steel fibres (non standard - project specific)	<ul style="list-style-type: none">• Resistance to impact and crack propagation

SPECIFICATIONS

- Compressive strength: minimum 120MPa, average 140MPa, ultra-high performance
- Standard size: 3m x 4m x 250mm thick (tolerance of +/- 2mm width/depth, +/- 5mm thickness)
- Custom sizes: made to measure, to meet client's specific size requirements
- Factory produced and cast concrete can include up to 1800kg/m³ of high strength, abrasion resistant aggregate
- Steel fibre content of up to 160kg/m³ is possible, to meet specific project requirements

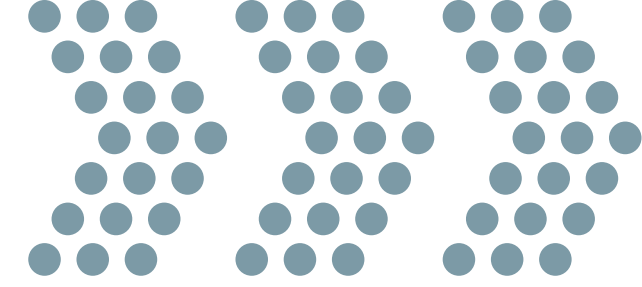


Our Process



Wall, roof and Floor

Exploded view



Re-Enforced Concrete.

Fossil Free Steel Fiber.



Re-Enforced Concrete can withstand some of the most extreme abrasive conditions due to its **STRENGTH.**

This concrete provides excellent fatigue performance with repetitive loads.

Attributes of Light Steel Construction

- Low maintenance cost for a high quality aesthetic value.
- Fire resistant.
- Sustainable to temperature effects.
- Environmentally friendly & reusable.
- The fast construction method leads to durable, dimensionally stable outcomes.
- Resistant to destructive insects, and a cheaper construction method.





Two Level
Warehouse with
Roof Solar Panels.



Two Level Warehouse.
Upper Level.

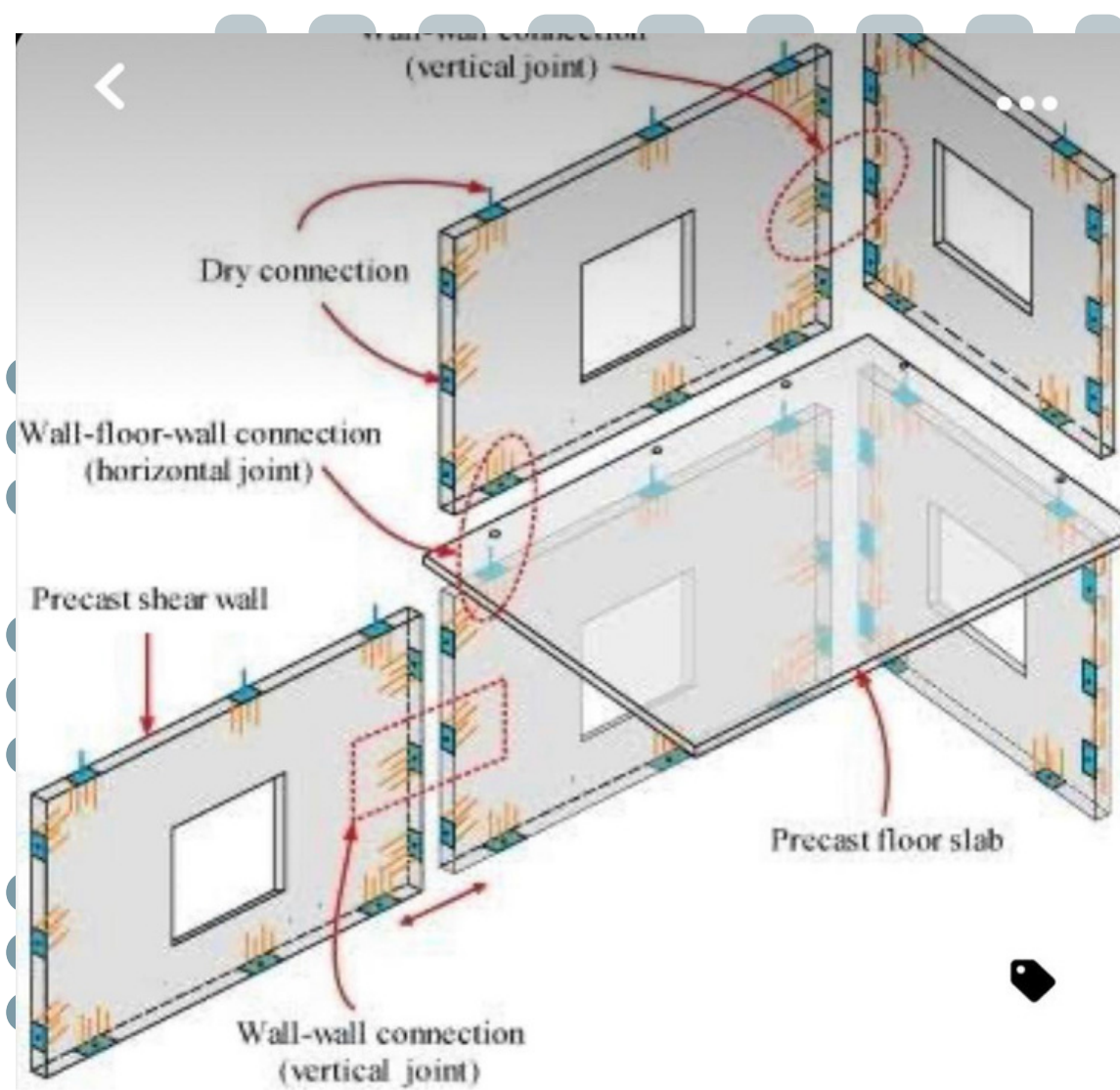


Warehousing with Solar Energy.





Concrete Board System



A few of the **MANY BENEFITS** . . .

- Made out of Environmentally Friendly Material, free of Asbestos, Formaldehyde, Poisonous Gas & Radiation.
- Ideal for internal / external walls that require waterproof capabilities.
- Thermal conductivity is low.
- You can drill, cut, treat, sound proof, and even suspend your ceilings.
- Light weight, high strength & is dimensionally stable & can be easily transported.
- Fire, moth, termite, and vermin proof.
- Weather, abuse, mold & fungus, & moisture resistant.
- Non-Combustible, passed ASTM E136 19a.
- Has a quick install using standard carpentry tools.
- T&G Edges available. Traditional edge details- ship, lap, and interlocking.



PREVIOUS WORK

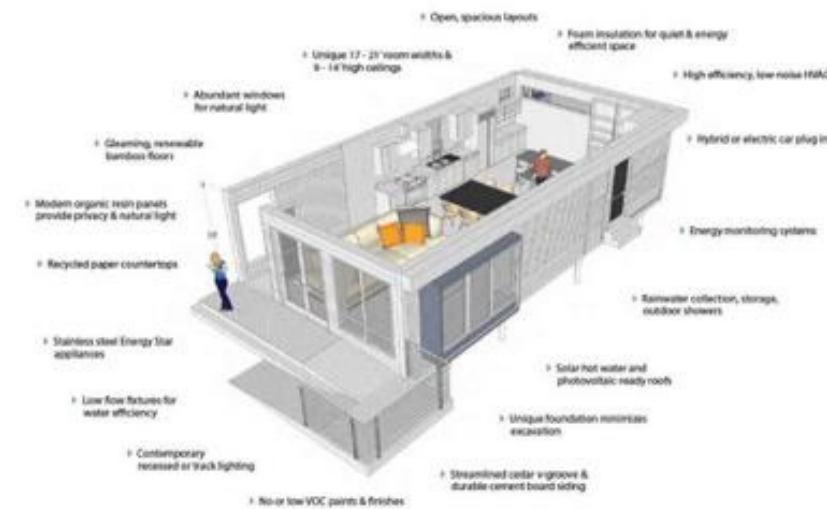


ECM has a global footprint spanning over
64 different countries across the world.

Boasting more than **17,000** satisfied
clients. Our multi-faceted projects in
Engineering, Construction, Railroad
Design, and Energy Sustainability span the
globe.



ZAMBIA, AFRICA. SAMFYA RESORT PROJECT.



StalwartBuilt Zambia



Earthquakes in Haiti.

ECM assisted in rebuilding the local buildings after **TWO** hurricanes struck Haiti. The technology our company was able to provide, helped them kick start the rebuild process.

Cyclones in Mozambique.

TWO major cyclones struck the land. ECM once again provided the modern technology to assist in jump starting the building process. This project is still being worked on present day.

Terrorists in Kenya.

Our company provided technology to help rebuild the infrastructure after the terrorist attack.

It took us **FOUR** whole years to replace all of the walls.

We also aided in fixing the housing issue shortage in the community.

Charles Taylor Brought War on Liberia.

Used our technology once again to help a large sum of people in a time of need. Schools were destroyed, we assisted in the rebuilding process.

DISASTER MANAGEMENT & RESTORATION.

QUILIMANE MOZAMBIQUE.

WORKING
WITH THE
WORLD
BANK AND
LOCAL
ENGINEERS, IN
EFFORTS TO
MAKE A
DIFFERENCE.





HURRICANE RESISTANCE EFFORTS

Mitigation Planning & Protection

Emergency Power Supply

Economic Recovery Planning &
Assessment

Coastal and Beach Engineering
and Re-nourishment

Emergency Environmental
Assessment & Response

Debris Management

Preliminary Damage Assessments

Public Assistance Program Support

Post-Disaster Recovery &
Reconstruction Planning Support

Redevelopment Assistance





THANK YOU!

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We appreciate your time and consideration.

