

RHINOZ
REWO

Transforming Waste,
Revolutionizing Construction

RECYCOEX
from waste to WOW



SUSTAINABLE
PRODUCT



REWO-MAT

Upcycling Nature into Sustainable Materials
Circular Innovation for a Low-Carbon World



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Upcycling Nature into Sustainable Materials
Circular Innovation for a Low-Carbon World



STORY of REWO Collaboration

REWO-MAT — an innovation initiative by BMS 2020 Thailand dedicated to transforming waste into next-generation, low-carbon building materials.

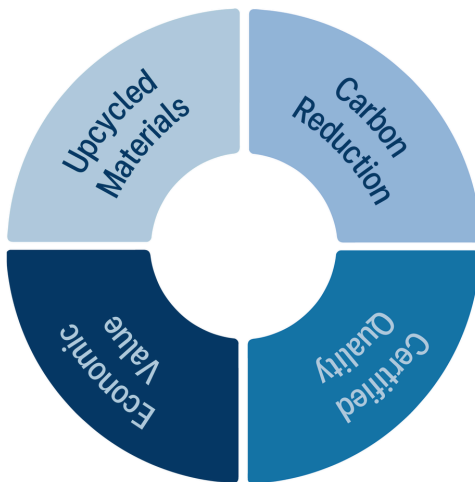
Our vision is to decarbonize the construction industry by developing sustainable composites that not only minimize environmental impact but also create measurable carbon sequestration through material science and circular design.

By replacing conventional aggregates and fillers with recyclable waste materials, REWO-MAT enables architects, builders, and manufacturers to design with purpose — reducing the embodied carbon footprint of every project while supporting a more regenerative construction ecosystem.



Upcycled Materials

Transforms AAC block waste, gypsum waste, coconut agricultural waste into valuable construction inputs.



Carbon Reduction

Significantly lower embodied carbon compared to traditional materials, with quantifiable climate benefits.

Certified Quality

Meets or exceeds industry performance standards while providing environmental benefits.

Economic Value

Creates dual financial benefits through Green building standards and further development for future carbon credit international market.

OUR SUSTAINABLE IMPACT

- **Reduce Waste to Landfill** — transforming agricultural by-products into high-value materials
- **Lower Carbon Footprint** — developing biochar-based composites with negative CO₂ potential
- **Enable Carbon Offset Credit** — achieving measurable carbon sequestration per ton produced
- **Empower Local Farmers** — creating new income streams from agricultural waste
- **Build a Greener Construction Future** — advancing Thailand's BCG (Bio-Circular-Green) economy model

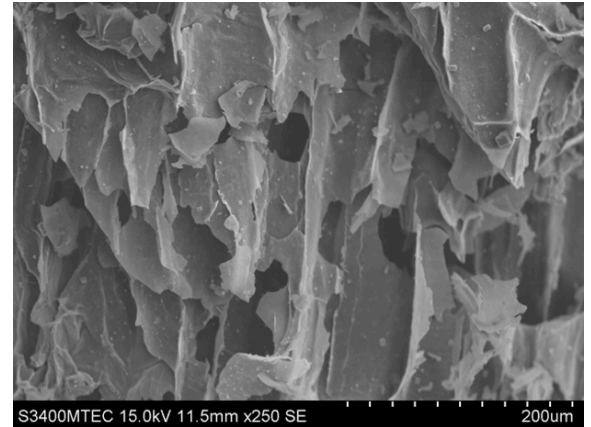


Collaborating for a Carbon-Negative Future



To advance this vision, REWO-MAT has partnered with Aromatic Farm, Thailand's first GI-certified aromatic coconut producer and a recognized model of the Bio-Circular-Green (BCG) Economy. The farm exemplifies zero-waste agriculture, converting every part of the coconut into valuable outputs.

Through this collaboration, coconut husks, shells, and residues are transformed into biochar, a carbon-rich material produced via pyrolysis — a controlled process that captures carbon instead of releasing it. Each ton of biochar effectively locks up to 3 tons of CO₂, making it a carbon-negative resource and a practical solution for climate-positive material production.



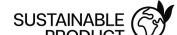
From Farm Waste to Building Innovation

Once produced, the biochar is refined by BMS 2020 Thailand into construction-grade eco-composites under the REWO-MAT series — such as biochar paving blocks, 3D printing composites, plasters, and panels.

These materials not only reduce cement consumption and lower embodied energy, but also reintegrate agricultural carbon into long-lasting structures, extending its lifecycle within the built environment.

By bridging agriculture and construction, the REWO-MAT x Aromatic Farm collaboration transforms farm waste into functional carbon sinks, turning Thailand's sustainable agriculture leadership into a foundation for climate-resilient architecture.

Together, we are redefining how materials are made — closing the loop between nature, innovation, and construction, one block, one wall, and one building at a time.





RHINOZ REWO Ecolight



openlca ecoinvent SímaPro Idemat picarbon

RHINOZ REWO PP-100 Biochar Pro Compound

A sustainable cement-based pellet incorporating biochar from coconut waste. The inclusion of biochar enhances carbon footprint reduction and carbon capture, while perlite ensures a lightweight structure. Supplied in dry mix form, Biochar Pro Compound contributes to sustainable construction with improved environmental performance.

Application:

- Precast
- AAC panel
- Fibercement board

Benefit:

- Circular economy
- Agricultural waste reduction
- Carbon Capture
- Lightweight Structure

Potential Certifications:

- Environmental Product Declaration (EPD)
- Cradle to Cradle Certified®
- USDA Certified Biobased Product
- Verra certification for carbon credits

RHINOZ REWO PP-101 Pro Compound

An advanced cement compound blended with perlite and recycled AAC. This formulation supports the circular economy by reusing industrial by-products, while also offering lightweight and carbon reduction properties. Available in dry mix format, Rewo Pro Compound is ideal for eco-conscious construction applications.

Application:

- Hollowcore
- AAC panel

Benefit:

- Ultra Lightweight Properties
- Carbon footprint Reduction
- Circular economy

Potential Certifications:

- UL 2809 Environmental Claim Validation (or GreenCircle Certified)
- Singapore Green Label (SGLS), Thai green label,
- Carbon footprint certification
- TREES (Thai's Rating of Energy and Environmental Sustainability) Contribution

Sustainability data:

Carbon footprint: (0.68 KgCO₂/Kg Ecolight) IPCC2013 GWP 100a

RHINOZ REWO PP-102 Agriwaste Pro Compound

A bio-based cement compound enriched with coconut husk and natural fiber waste. Designed to promote biobased solutions and circular economy principles, this pellet improves resource efficiency while delivering reliable structural performance. Offered in dry mix forms, Agriwaste Pro Compound is a sustainable choice for green building materials.

Application:

- Precast
- AAC panel
- Fibercement board

Benefit:

- Bio-Based Compound
- Agricultural waste reduction
- Resource Efficiency
- Green Building

Potential Certifications:

- Environmental Product Declaration (EPD)
- Cradle to Cradle Certified®
- USDA Certified Biobased Product

RHINOZ REWO PP-103 Rewo Compound

A cement compound formulated with recycled AAC and gypsum waste, engineered to promote the circular economy and carbon reduction. By reusing industrial waste streams, Rewo Compound delivers sustainable material solutions with consistent quality. Supplied in dry mix form, it supports greener and more efficient construction practices.

Application:

- Hollowcore
- AAC panel

Benefit:

- Lightweight Properties
- Carbon footprint Reduction
- Circular economy

Potential Certifications:

- UL 2809 Environmental Claim Validation (or GreenCircle Certified)
- Singapore Green Label (SGLS), Thai green label,
- Carbon footprint certification
- TREES (Thai's Rating of Energy and Environmental Sustainability) Contribution

Sustainability data:

Carbon footprint: (0.68 KgCO₂/Kg Ecolight) IPCC2013 GWP 100a



ULTI WALL

The Ultimate Solution To All Wall Problems

Ulti Wall is the new alternative wall solution that answers all pain points of builders and building users due to its selections of wall type, material type, and additional property that are customizable to suit all needs. Our main purpose is to achieve a better general property such as higher strength for higher load bearing ability or lighter weight for more economic construction, as well as the specialized property for specific function such as minimizing condensation for rooms with different temperature or shielding radiation for x-ray room, while lessen application problems, for better constructing and living experience.



ULTRALITE PERLITE

- Non-metallic volcanic mineral heated to expand 4-20 times
- Non-conductive tiny air cells in perlite particle
- Ultra lightweight
- Permanent excellent thermal insulation



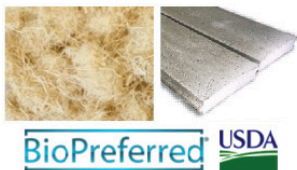
SILICA AEROGEL

- Best insulator with low thermal conductivity (0.0197W/(m-k))
- Fire Resistance with wide operating temperature
- Lightness & volumization, with porosity >90%
- Hydrophobic, repels water & moisture
- Reduce sound transmission with energy dampening property



PIGMENT

- Creating added value and structural improvement by adding permanent beauty
- Excellent lightfastness and weather resistance property for intensive exposure
- Integral coloring, remain aesthetic even when some part breaks off



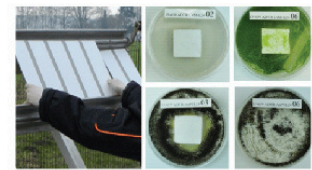
BLUE MORTAR

- Adding new organic compound to meet USDA BioPreferred standard of bio-based requirement
- Testing using ASTM D6866 for bio-based content testing (total organic carbon content)



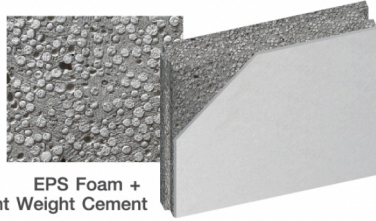
MAGNADENSE

- Space and design limitation but maintain force withstanding property
- Radiation shielding : hospital, lab, nuclear plant
- Reduce vibration & dampen sound : railway Traffic
- Heat & cold storage : ice rinks, underfloor heating
- Underwater : quay, gravity-based structure



HYGIENIC & ANTIMICROBIAL PROPERTY

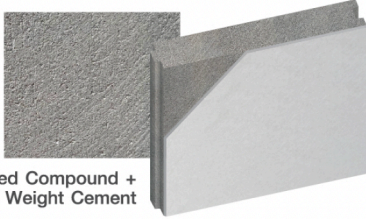
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|--|---|
| APPLICATION | ANTIMICROBIAL |
| <ul style="list-style-type: none"> • Hospital and health care • Elder care • Clean room • Laboratory • Residential • Kids room | <ul style="list-style-type: none"> • Mold • Mildew • Fungi • Yeast • Algae |



EPS Foam +
Light Weight Cement

ULTI WALL Light

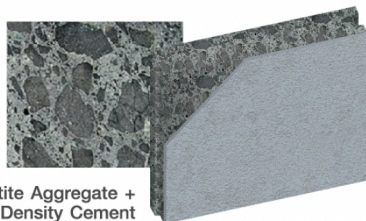
lightweight panel with optimized strength
Core Additive / Core Air / Core Strength (REWO)



Bio-based Compound +
Light Weight Cement

ULTI WALL Green

eco-composite with biochar for improved thermal resistance
Core Additive / Core Air / Core Strength (REWO)



Magnetite Aggregate +
High Density Cement

ULTI WALL Power

high-strength formula with Core Additive
Core Additive / Core Dense (REWO)

Potential Certifications:

- Environmental Product Declaration (EPD)
- Cradle to Cradle Certified®
- Verra certification for carbon credits
- USDA Certified Biobased Product
- TINT Thailand Institute of Nuclear Technology (Radiation Filtration)





*Turn waste into
opportunity*



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