RHINOZ

REWO

Transforming Waste,
Revolutionizing Construction

RECYCOEX from waste to WOW

Upcycling

SUSTAINABLE PRODUCT

MCX

REWO-MAT

Upcycling Nature into Sustainable Materials

Circular Innovation for a Low-Carbon World

www.rhinozinternational.com

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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.

OUR SUSTAINABLE IMPACT

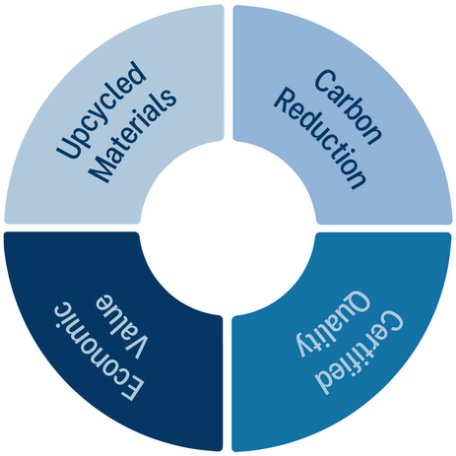
- **Reduce Waste to Landfill** — transforming agricultural by-products into high-value materials
- **Lower Carbon Footprint** — developing biochar-based composites with negative CO_2 potential
- **Enable Carbon Offset Credit** — achieving measurable carbon sequestration per ton produced
- **Empower Local Farmers** — creating new income streams from agricultural waste
- **Build a Greener Construction Future** — advancing Thailand's BCG (Bio-Circular-Green) economy model

Upcycled Materials

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

Certified Quality

Meets or exceeds industry performance standards while providing environmental benefits.



Carbon Reduction

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

Economic Value

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

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 CO_2, 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.

Aromatic FARM

FAO 80

Recognition of best practices and innovative approaches in sustainable plant production and protection

APEC Asia-Pacific Economic Cooperation 2023

APEC Bio-Circular-Green Award

Our Impacts for Our Staff / Farmer Network

Our Impacts for Environment Land, Water, Air

Our Impacts for Economic Growth with Responsible of Consumption and Production

Upcycling

RECYCOEX from waste to WOW

SUSTAINABLE PRODUCT

openLCA

ecoinvent

SimaPro

Idemat

RHINOZ REWO
Ecolight

openLCA ecoinvent SimaPro Idemat

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

REWO
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RHINOZ REWO
Ecolight

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

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

RHINOZ REWO PP-103
Rewo Compound

A cement compound formulated with recycled AAC and gypsum waste, engineered to promote the circular economyand 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

RHINOZ REWO
Landscape

RHINOZ REWO L-301 Paving Block

a cement-based, polymer-modified surface repair plaster designed for leveling, smoothing, and repairing surface defects in concrete, render, and masonry. Made with 10% AAC (Autoclaved Aerated Concrete) waste and 5% gypsum waste, this eco-friendly plaster provides high adhesion, low shrinkage, and a smooth finish, making it ideal for both interior and exterior applications.

Packing size
25 Kg bag

Sustainability data:
Carbon footprint: (15.34 KgCO2/unit REWO paving block) IPCC2013 GWP 100a

RHINOZ REWO L-302 Signage

A high-quality, polymer-modified cement-based finishing coat designed to smooth and refine wall surfaces before painting or decorative coating. Engineered with 10% AAC (Autoclaved Aerated Concrete) waste and 5% gypsum waste, this eco-friendly formulation provides excellent adhesion, crack resistance, and a uniform finish.

Packing size
25 Kg bag

Sustainability data:
Carbon footprint: (15.25 KgCO2/unit REWO signage) IPCC2013 GWP 100a

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Hypertufa

Formulated for sustainable home décor and gardening applications, this eco-composite promotes circular design and carbon reduction through waste valorization. Lightweight yet durable, it enables creative casting and natural aesthetic finishes for planters, pots, and landscape ornaments.

Application:
- Home décor items
- Garden pots and planters
- Landscape ornaments
- Decorative panels

Benefit:
- Bio-based & lightweight cement alternative
- Upcycled from agricultural waste
- Natural texture and breathable surface
- Promotes circular economy and low carbon footprint

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

RHINOZ REWO

3D Printing

Engineered for next-generation sustainable construction, this biochar-enhanced cementitious composite transforms coconut waste into a carbon-sequestering material optimized for 3D-printed housing and architectural structures.

By integrating biochar's lightweight strength, thermal stability, and carbon capture properties, REWO-MAT empowers the construction of low-carbon, energy-efficient buildings that embody the principles of circular design and material regeneration.

Application:
- 3D-printed houses and modular structures
- Sustainable wall and façade systems
- Architectural features and landscape components
- Customized site furnishings and signage elements
- Research and prototyping for low-carbon construction
-

Benefit:
- Carbon-negative material that sequesters CO_2 per ton of use
- Improved printability and dimensional stability during extrusion
- Reduced cement demand, lowering embodied carbon
- Lightweight yet strong, enhancing design flexibility and energy efficiency
- Derived from coconut and agricultural waste, promoting circular economy integration
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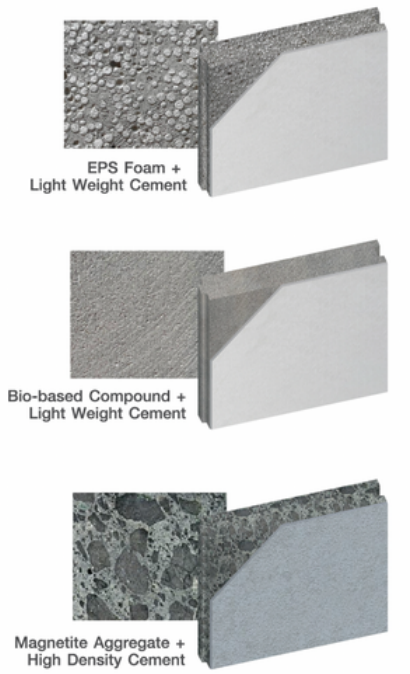
Potential Certifications:
- Environmental Product Declaration (EPD)
- Cradle to Cradle Certified®
- USDA Certified Biobased Product
- LEED / WELL Material Credit Eligible
- Carbon Neutral Product Certification

Product Application

RHINOZ REWO
Wall Panel



ULTI WALL

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.

ULTI WALL Light

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

ULTI WALL Green

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

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)

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Revolutionizing Construction

RHINOZ
Stride to sustainability

Aromatic FARM
ORGANIC COCONUT

Turn waste into opportunity

MCX · BIO BASED · Made from Recycled Plastic · UPCYCLING · RECYCOEX from waste to WOW · SUSTAINABLE PRODUCT

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Transforming Waste,
Revolutionizing Construction

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