



ec  **BRICK**

Turning waste into valuable
resources.



Help to turn waste into
valuable resources.

Mission and Vision



Mission

To **reduce global warming**, and **eliminate massive waste landfills** using our **innovative material**.



Vision

Creating a **clean, efficient,** and **profitable** ecological process that rapidly consumes **large volumes of waste**, promoting a more sustainable future



ABOUT US



Turning waste into valuable resources.

eco BRICK Overview

eco BRICK is a Greentech startup driving circular economy innovation by recycling traditionally unrecyclable materials.

Key Features and Innovations

Waste Transformation:

- Processes over 40 types of waste, **diverting ~99%** of materials from landfills.
- Creates lightweight **artificial aggregates** suitable for the **cement** and **asphalt** industries.

Engineered Materials:

- Combines Thermosetting and Thermoplastic properties.
- Produces materials with enhanced attributes like:
 - Lightweight composition
 - Acoustic insulation
 - Heat insulation





ABOUT US



Turning waste into valuable resources.

Applications:

- Used in construction materials such as:
- Concrete and concrete blocks
- Self-leveling floors
- Mortar
- Asphalt

Proprietary Technology:

- Employs a unique binder and machinery to produce high-quality recycled materials.

Impact Goals

- Environmental: Offers a landfill alternative to reduce contamination.
- Sustainability: Provides a greener, cost-effective option for the aggregate market.

eco BRICK exemplifies innovation in sustainable construction by converting waste into valuable resources while addressing environmental challenges.





WHAT IS THE 'CIRCULAR ECONOMY'?

Turning waste into valuable resources.

The circular economy is a new way of looking at the relationships between markets, customers and natural resources.

Move away from the linear economy...



Enable the Circular Economy...



The circular economy moves away from the traditional “take-make-dispose” economic model to one that is regenerative by design, with the goal of retaining as much value as possible from waste.



Companies that implement the circular economy concentrate on rethinking products, like concrete, concrete blocks, roof tiles, and more.



By applying these principles, companies can exploit waste, increase resource productivity, and decrease natural resource consumption.

This is the biggest opportunity to transform production and consumption since the First Industrial Revolution.

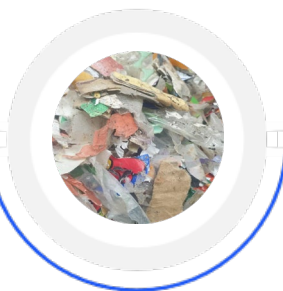


Turning waste into valuable resources.



Types of waste

eco BRICK recycles over 20
different types of waste



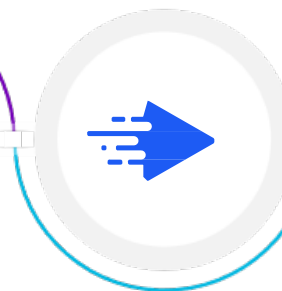
Pollution

eco BRICK does not
burn waste at any
time or stage
of the process!



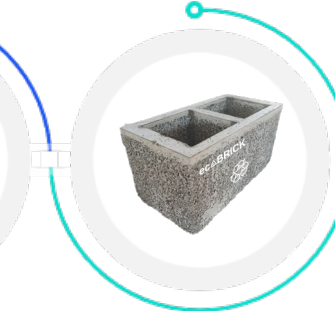
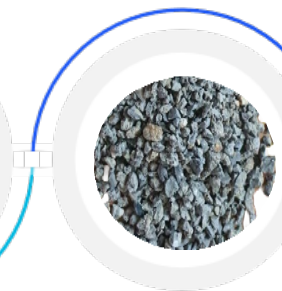
Standards

Pending American and European standards for light aggregates.



Products

eco BRICK's products
lightweight aggregates.



Preparation

No preparation is needed – except for removing metal!



Patent

eco BRICK has
A patent PCT for the
combination/process.



eco BRICK's machine can produce about 4 cubic meters per hour of eco Brick material!

Future

eco BRICK is working on other innovative combinations of different kinds of waste and products.



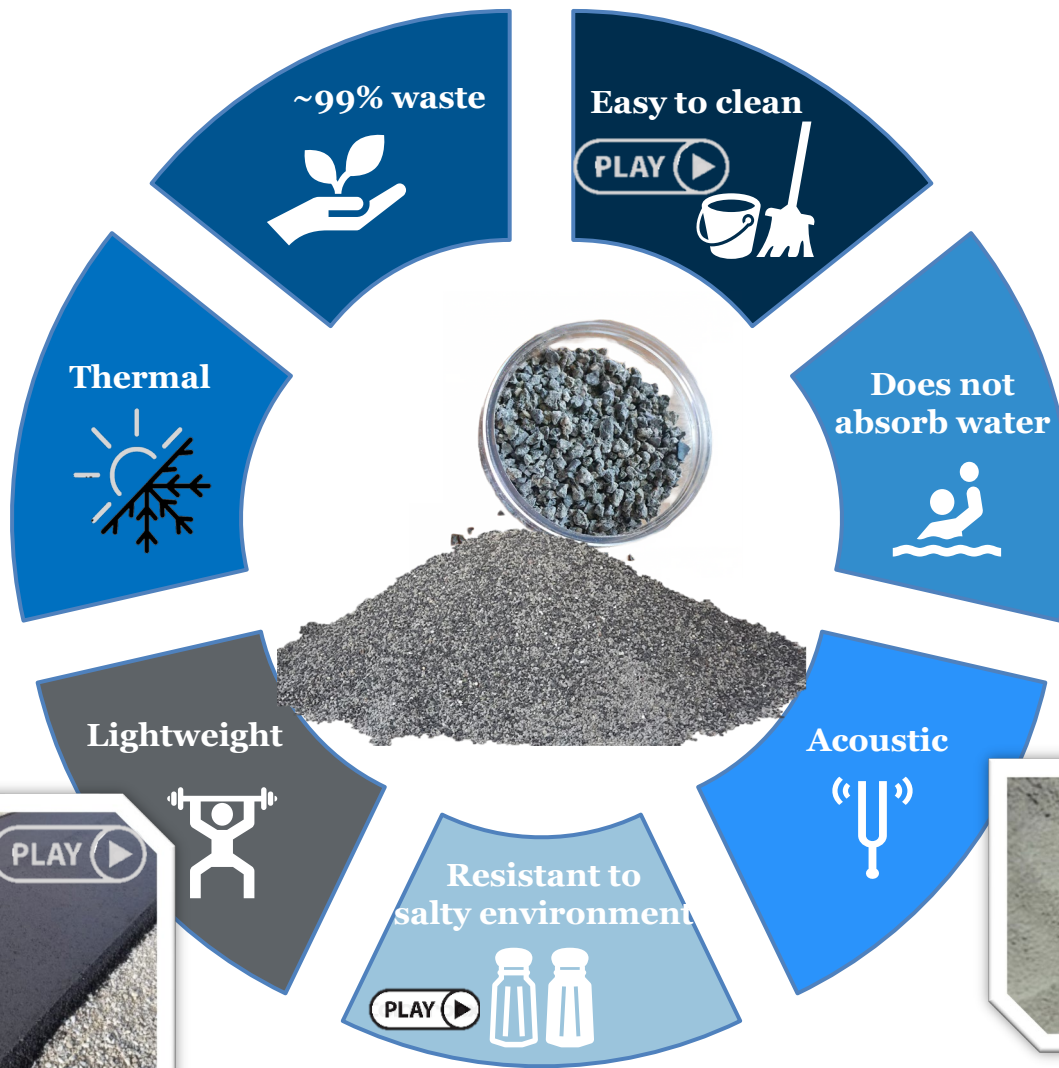
OUR MAIN PRODUCTS

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With NO cement!

- Multi Color Roofing Tiles
- Industrial Flooring Slabs
- Outdoor Parking Tiles
- Outdoor Terrace Tiles
- Interior False Ceiling Tiles
- Paving Slabs & Blocks
- Road Divider/Barrier Blocks
- Interlocking Lego Blocks
- Water Drainage Ducts
- Sewer Manholes and Components of sewage wells
- Asphalt roads



For use with cement!

- lightweight concrete
- Cement boards
- Mortar
- Construction blocks
- Self-leveling floor
- CLSM
- Precast lightweight walls





OUR TEAM



Shlomi Perry CEO	Jacob Biofcic CTO	Israel Bettelheim COO	Joseph Krol Mechanical Engineer	Doron Afik VP Legal
B.Sc. Software Engineering Eco Brick Innovio founder. Entrepreneur in the fields of high-tech and education. Founder of the companies: Innovio Development Ltd. Easylinks Ltd. Matar Robotix Ltd	BSc. & MSc. In Plastics Engineering 14 years of experience in leading and managing projects in the field of plastics, lecturer in Shenkar College	Mechanical Engineer 25 years of experience as director of operations in a quarry and the construction industry	B.Sc. Mechanical Engineering & Mechatronics. Technical manager in the plastic industry, with a vast knowledge of automated production lines	LLB Over 20 years of experience as a high-tech lawyer and in managerial positions



OUR TEAM



Eran Gorodezky CFO	Eli Stav Consultant	Nechemia Masori Consultant	Bezalel Blum Consultant	Eitan Berkovitch Consultant
CPA&CFO with over 15 years of experience managing the finances of complex organizations across multiple sectors, including SaaS, e- commerce, financial services, and startups. Expert in international taxation, financial reporting, and managing cross-border teams.	PhD, Chemistry, Building Materials, Polymers. Over 40 years of experience, and out of that 20 years as Director of Technology Development at National Gypsum Company, USA	BSc. & MSc. In construc tion and building materials More than 40 years of experience Member of the Israeli Building Code for building materials. Member of standards committees at the Israeli Standards Institution. Professional Committee of the Building Materials.	B.Sc in Chemical Engineering, Technion, Haifa (1982-1985) M.Sc in Oil and Gas Engineering, Technion, Haifa (2015-2017) Chief Process Manager at Bazan Group with 39 years of service. Expertise in oil refining and catalyst characterization. Proficient in process models and simulations for the petrochemical industry.	B.Sc. in Civil Engineering. M.A. in Real Estate 25 years of expertise in building materials, especially concrete manufacturing and QA. 20 years of senior management. Expert in the field of sustainability and new developments

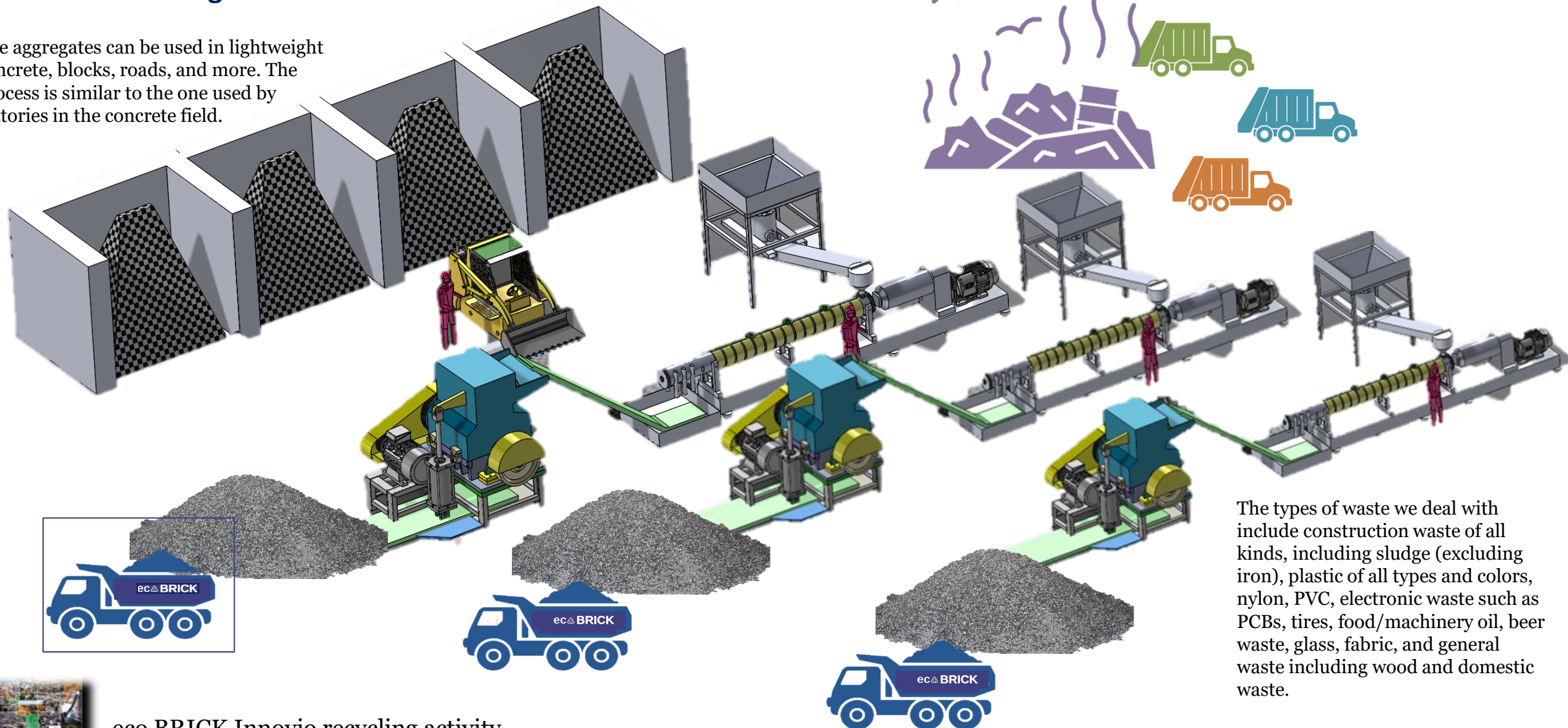


APPLICATION OF ECO BRICK INNOVIO

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Turning waste into valuable resources.

The aggregates can be used in lightweight concrete, blocks, roads, and more. The process is similar to the one used by factories in the concrete field.



The types of waste we deal with include construction waste of all kinds, including sludge (excluding iron), plastic of all types and colors, nylon, PVC, electronic waste such as PCBs, tires, food/machinery oil, beer waste, glass, fabric, and general waste including wood and domestic waste.



eco BRICK Innovio recycling activity



TESTS AND LABORATORY REPORTS

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Turning waste into valuable resources.



Safety!

We are collaborating with a certified American lab to get the **ASTM standards**. Our aggregates were thoroughly tested.

Iron free

No chemical interaction with materials – like cement.

This insures **safe and contamination-free** construction use.



[Test report #201338, April 20, 2023](#)

[Chemical test report](#)



Absorption!

We partnered with a certified Israeli lab to test our materials.

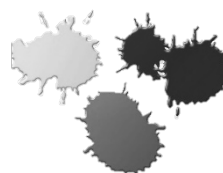
The results show:

- **Water absorption rate: just 0.012%**

This confirms **exceptional durability and low moisture impact**.



[Test report #7211900735, April 12, 2022](#)



Staining Resistance!

We partnered with a certified Israeli lab to test our materials.

The results show:

High resistance to stains from **18 different substances** including wine, coffee, etc.



[Test report #7211900735, April 12, 2022](#)



Innovative Product Development!

We've partnered with leading Israeli companies in **waste management** and **concrete production** to develop optimized construction solutions.

Our product range includes:

- **Floor self-leveling compounds**
- **CLSM**
- **Lightweight concrete and blocks**
- **SMA asphalt (Hot & Clod)**
- **LWA (Lightweight aggregates)**

These collaborations ensure **performance-driven and sustainable construction materials**.



[Test report #Shapir engineering led](#)



Colorado's waste problem

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Waste Management Challenges

- Increasing Waste Generation: Colorado's population growth has led to an increase in waste generation. More residents mean more household waste, commercial waste, and construction debris.
- Landfill Capacity: Many landfills in Colorado are nearing capacity, leading to concerns about where to dispose of waste. This situation necessitates more sustainable waste management practices.
- Recycling Rates: While Colorado has made strides in recycling, the overall recycling rate remains below the national average. Many materials that could be recycled end up in landfills.
- Contamination in Recycling Streams: Contamination of recyclable materials can lead to increased costs and inefficiencies in recycling programs, making it harder to process materials effectively.
- Illegal Dumping: In some areas, illegal dumping of waste is a problem, leading to environmental degradation and increased cleanup costs for municipalities.

<https://cdphe.colorado.gov/press-release/state-health-department-seeks-input-on-reducing-greenhouse-gas-emissions-from>



<https://www.cpr.org/2017/12/11/small-colorado-landfills-faced-closure-and-fines-but-now-get-state-help/>





Colorado's Construction Materials



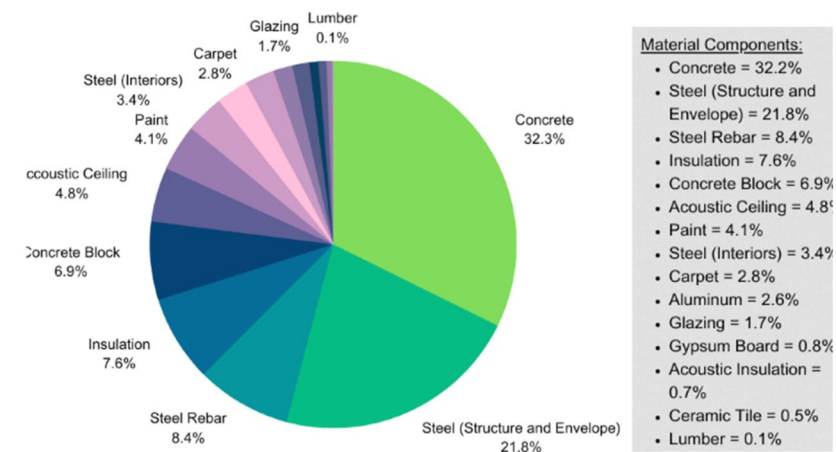
Help to turn waste into valuable resources.

<https://osa.colorado.gov/energy-environment/buy-clean-colorado-act>

Construction Materials Challenges

- Sustainability Concerns: There is a growing demand for sustainable construction materials that minimize environmental impact. Traditional materials often have high carbon footprints.
- Supply Chain Issues: The construction industry has faced supply chain disruptions, particularly during the COVID-19 pandemic, leading to shortages of key materials and increased costs.
- Quality and Performance: There is a need for construction materials that not only meet regulatory standards but also perform well in Colorado's diverse climate, which includes extreme temperatures and varying weather conditions.
- Waste from Construction: The construction industry generates a significant amount of waste, including excess materials, packaging, and demolition debris. Finding ways to recycle or repurpose this waste is a challenge.

Estimated Carbon Emissions Distribution of Common Building Materials for a Generic Office Building



<https://coloradospringssitematerials.com/materials/>



NationalSiteMaterials.com



Colorado's Infrastructure Challenges



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Infrastructure Challenges

- Aging Infrastructure: Many roads, bridges, and public facilities in Colorado are aging and require significant investment for maintenance and upgrades.
- Traffic Congestion: Rapid population growth in urban areas like Denver has led to increased traffic congestion, necessitating improvements in transportation infrastructure.
- Funding Limitations: There are often insufficient funds allocated for infrastructure projects, making it difficult to address all necessary repairs and upgrades.
- Environmental Impact: Infrastructure projects must consider environmental impacts, including effects on local ecosystems and air quality. Balancing development with environmental sustainability is a key challenge.
- Natural Disasters: Colorado is prone to natural disasters such as wildfires and floods, which can damage infrastructure and require costly repairs and upgrades.



<https://sealcoatandasphalt.com/asphalt-vs-concrete-cost-benefits-in-colorado/>



<https://sealcoatandasphalt.com/colorado-asphalt-problems-causes-and-solutions/>



PMC

eco BRICK

Help to turn waste into valuable resources.

Permanent Modular Construction (PMC) with LWA is an innovative, sustainable construction delivery method utilizing offsite, lean manufacturing techniques to prefabricate single or multi-story whole-building solutions in deliverable module sections. PMC modules can be integrated into site-built projects or stand alone as a turn-key solution and can be delivered with MEP, fixtures, and interior finishes in less time -- with less waste, and higher quality control compared to projects utilizing only site-built construction. Recent research on modular building construction analysis has come out supporting the fact that modular construction is an efficient construction process and is poised to help the construction industry grow.

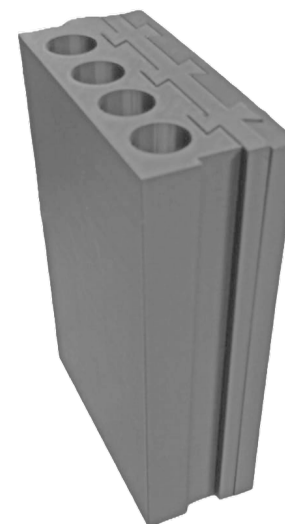
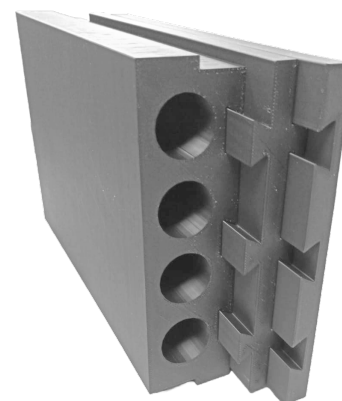
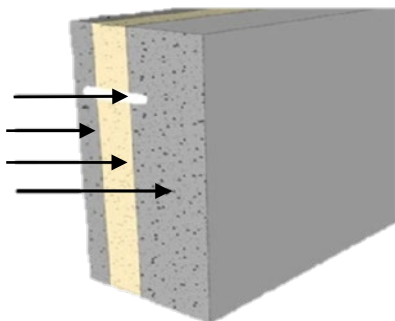
LWA – LightWeight Aggregates

PMC Market Shares

Year	PMC Firm Revenue	Value of PMC Projects (divide by .55)	Construction Start Value	Annual PMC Market Share
2015	\$2,040,500	\$3,710,000	\$173,729,905	2.14%
2016	\$3,301,664	\$6,003,025	\$244,509,444	2.46%
2017	\$3,979,680	\$7,235,782	\$246,089,662	2.94%
2018	\$4,943,067	\$8,987,396	\$243,316,997	3.69%
2019	\$5,025,355	\$9,137,010	\$255,013,842	3.58%
2020	\$4,496,791	\$8,175,984	\$186,315,485	4.39%
2021	\$4,379,159	\$10,303,904	\$186,653,947	5.52%
2022	\$5,294,258	\$12,312,229	\$204,344,212	6.03%

(US \$000s) • Source: Modular Building Institute, Construct Connect

Connector
Outside panel
eco BRICK isolation
Inner panel





OUR MAIN PRODUCT FOR ASPHALT

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eco BRICK Innovio Asphalt add-on.

- Development: Several patented formulas to enhance asphalt strength while minimizing bitumen content.

Recent Test Results

- Composition: Asphalt formulated with up to 25% eco BRICK material and 4.8% bitumen, stones, and sand.
- Bitumen Extraction:
 - Notable increase in binder content, ranging from 6.1% to 6.5%.
 - Stones remained mostly covered by the eco BRICK add-on, with minimal decomposition.

Benefits - Absorption Reduction: Decreases the absorption rates of aggregates.

- Aggregate Coverage: Fully covers aggregates, enhancing overall batch strength.
- Strength Increase: Achieved a strength of 8755 lbs, over three times stronger than regular batches.
- Volume Increase: 20% increase in volume.
- Flow Measurement: Flow rates measured between 11.3 and 13.



[Test report Benari December 20, 2023](#)



[Test report Shaffir Engineers March 18, 2024](#)



OUR MAIN PRODUCT FOR ASPHALT

eco  **BRICK**

Turning waste into valuable resources.

eco BRICK Innovio cold-mixed asphalt.

- Development: Several patented formulas to enhance asphalt strength while minimizing bitumen content by using our bitumen emulsions

Advantages of the Cold Mix eco BRICK eBSM

Waste Reduction:

- Significantly reduces construction and plastic waste in the industry.
- Contributes to a circular and sustainable economy.

Recycling in Infrastructure:

- Enables the use of recycling in road infrastructure.
- Saves valuable and critical natural resources.

Energy Savings:

- Requires low energy for production and application.
- Significantly reduces carbon emissions.

Premium Mix:

- The new mix allows for better workability, high strength, enables work even in winter, and is more resistant to weather damage.





OUR OPEN PILOTS



Turning waste into valuable resources.

Open Pilots for Waste Utilization

1. New Strong Cold Asphalt

- Compatible with hot-mixed asphalt
- Composed of approximately **97% waste**

We are working with 2 Israeli partners, **Paz-Kar** and **Ben Ari**, to develop and produce our new cold mixed asphalt, which has the same strength and workability as the hot mix. The new mix is designed to save **money! Pollution! Energy! Mining** of stone and sand! And an all-weather application!

2. New Strong and Lightweight Aggregates

- Created from soft clay soil waste
- Enhances construction material properties

We have reached the finals of the competition organized by the French company **Saint-Gobain**, which operates in 76 countries worldwide. In this competition, we showcased our ability to produce lightweight aggregates for the construction industry, utilizing approximately **99% of waste**. Additionally, we are collaborating with a partner in Singapore to develop a high-strength aggregate made from clayey soil waste, aimed at producing durable concrete for use in Singapore and other countries around the globe.

3. Emulsion Bitumen Paste

- Made from **35-60% water**
- Used in various asphalt roads applications

4. Ash Utilization

- Converting ash from incinerated waste into a new artificial material

5. Lightweight Tiles

- Designed to resemble stone
- Offers aesthetic and functional benefits

6. Communication Channels

- Infrastructure for railways, planters, and cars barriers
- Made from municipal waste trimmings

Objective

- **Turning waste into valuable resources**
- **These pilots aim to innovate and promote sustainable practices by repurposing waste materials.**



Turn trash into cash

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Processes over 40 types of waste, diverting ~99% of materials from landfills

eco BRICK Innovio Ltd.

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