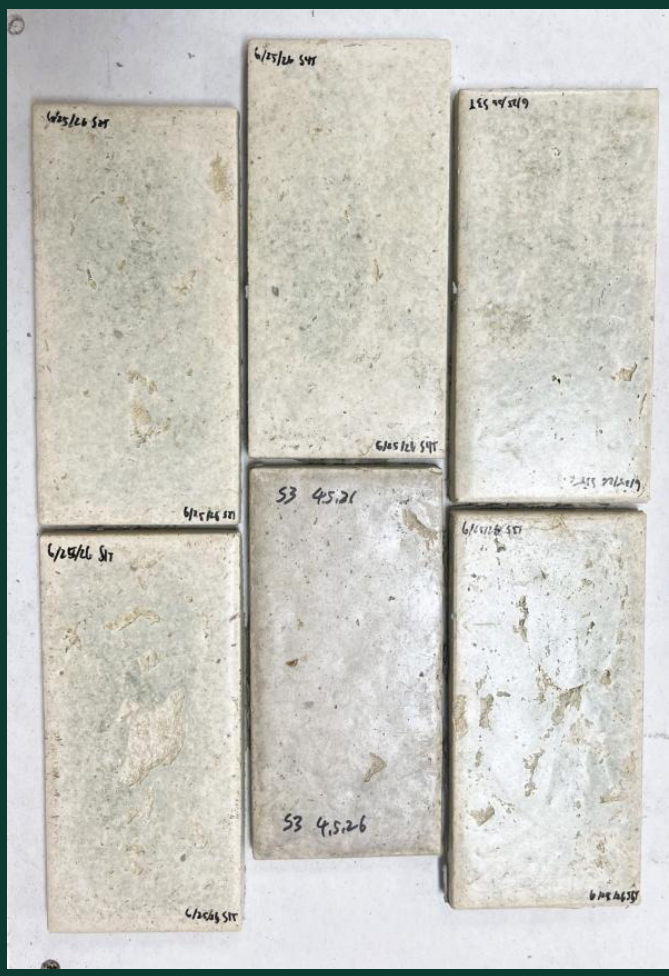
JJ Innovative Materials
For a future of sustainable human habitats

jjinnovativematerials.org

JJIM GEOTILE

Stone-look tile, made from waste.



GeoTile is a natural-stone-look tile made with our own plant-and-rock bonding process. It's more than 90% recycled material, made in the USA, and it installs like the tile you already use.

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USA

Made here: no tariff or overseas freight risk

Installation

Same tools and mortar as ceramic or stone tile

90%+

Recycled material in JJIM GeoTile

01. THE LOOK

Side by side with real stone tile.

The middle tile is commercial stone. The two on either side are GeoTile. Because GeoTile is made from rock and plant material, it has natural texture and color, just like quarried stone.



02. HOW IT'S MADE

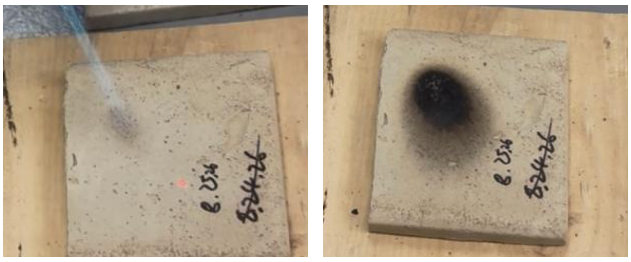
Our technology

We bond recycled rock, glass and plant material with an alkaline activator instead of firing it in a kiln. The tile cures in sealed molds below 70°C and uses no Portland cement.

No change to your process

It's ready to cut and set with the same tools and mortar as ceramic or stone, and it's made in the USA.

03. PUT TO THE TEST



Fire: 30 seconds of direct flame at 2,500°F

No visible smoke | **No cracks** | **No spalling**

Spalling means the surface chipping or flaking off under heat.



Water: 3 days fully under water

Mold resistant | **pH stable for months**

A stable pH (acidity level) is a sign the material stays chemically steady over time.

04. BY THE NUMBERS

7–8 MPa
Average flexural strength (modulus of rupture)

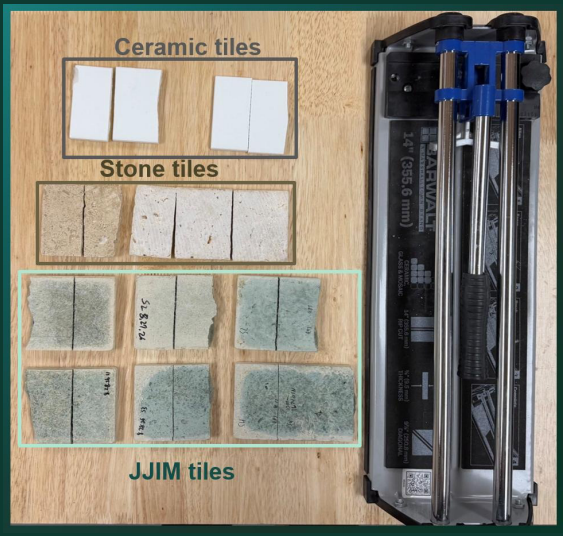
900–1,000 N
Average breaking load in three-point bending

Below 70°C
Cure temperature, versus 1,100–1,200°C to fire ceramic

90%+
Recycled industrial and agricultural material, by weight

Results are from our internal development testing (strength by the EN 14617-2 bending method). Independent third-party testing and certification are in progress.

For builders



01 **No new tools. No retraining.**
Cuts on a standard commercial tile cutter and sets in standard mortar, just like ceramic or stone.

02 **Supply you can plan around.**
Made in the USA. No tariffs, no overseas shipping delays. Now serving the Mid-Atlantic.

03 **Tested tough.**
No cracks or smoke under a 2,500°F flame; mold resistant after 3 days under water (see p.2).

04 **Lower carbon, by design.**
More than 90% recycled content and a projected 80–90% lower embodied carbon than ceramic, pending independent assessment.

SPEC SHEET

Product	JJIM GeoTile, stone-look plant-and-rock composite tile
Material	Alkali-activated geopolymer, 90%+ recycled content, no Portland cement
Sizes & thickness	3 in × 6 in × 3¼ in
Strength	7–8 MPa average modulus of rupture (internal testing)
Installation	Standard commercial tile cutter & standard mortar
Availability	Made in USA

Start with a paid pilot. We work with builders on paid pilots that lead to step-by-step adoption, including multifamily housing. Tell us about your next project.

Coming soon from JJIM

SAME PLANT-ROCK SCIENCE

Sustainable drywall
Bio-based wall board made from plant sources and recycled binders, with a low carbon footprint.

Bio-based insulation
Recycled, non-toxic insulation designed to resist fire and mold and keep indoor air healthier.

Want early access? Ask to join our product update list.

For homeowners

Redoing a kitchen, bathroom or entryway? GeoTile gives you the warm, one-of-a-kind look of stone, made from recycled farm and industrial leftovers right here in the USA.



Why homeowners choose GeoTile

- **Durability**
  In our tests it resisted mold after 3 days fully under water and didn't crack under a 2,500°F flame.
- **Earthy look and feel**
  Our tiles have a natural color and texture, just like real stone.
- **Easy for your installer**
  No special tools needed. Any tile installer can cut and set it.
- **Great for the environment**
  More than 90% recycled material, and a projected 80–90% lower carbon footprint than conventional tile.

IDEAS FOR YOUR HOME

Kitchen backsplash | Bathroom walls | Feature wall | Entryway

Getting GeoTile into your home is simple

1

Show it to your contractor or tile installer.

2

Share our contact. They can get a quote straight from us.

What's in your tile

Blast-furnace slag, recycled glass, rice-husk ash and reinforcing fiber, bound together chemically. No kiln firing and no Portland cement.

Help us build what comes next.

Construction runs on extraction, while more than a billion tons of industrial and agricultural by-products are landfilled or burned every year. GeoTile is our first proof that one can become the other.

Where we are

2 paying customers with multiple paid pilots under way

6 executed letters of intent; a 7th in development for multifamily housing

1,000+ customer surveys and 15+ in-depth builder and developer conversations

Pilot line ordered and being installed; a provisional patent is filed

How we scale

Stage 1. Prove a repeatable process on our own blueprint factory, starting at about 1,000 tiles a month

Stage 2. Supply formulated materials and license the process to regional manufacturers

Design target: 3–6 million tiles a year per microfactory. A target, not demonstrated output

More from the science

Drywall and floor tile prototyped

Next: exterior panels, pavers, bricks and countertops, each needing its own testing

Higher plant content under research, including hemp and other fibers

80–90%
Projected lower embodied carbon than ceramic tile, pending independent life-cycle assessment

500–1,000 tons
Waste each microfactory could divert per year (projected)

~36 months
Of runway to commission the line, certify and convert pilots

Work with us

Investors
Fund line commissioning, independent certification and a full life-cycle assessment.

Builders & developers
Run a paid pilot, including multifamily and green housing projects.

Architects, specifiers & distributors
Get samples, spec sheets and installation guidance.

Manufacturers
Explore contract manufacturing and licensing.

Research & testing partners
Help validate performance and climate claims independently.

Read the whitepaper
Full strategy, risks and milestones, available on request.

Figures marked projected are internal estimates or design targets, not independently verified results. Performance data is from internal testing.

WHO'S BEHIND GEOTILE

JJ Innovative Materials is a Baltimore company led by Johns Hopkins–trained materials scientists and engineers, working toward a future of affordable and sustainable homes.

Taein D. Lee, PhD
CEO

PhD, Materials Science & Engineering, Johns Hopkins. Three years leading our geopolymer development.

Mark B. Wo
COO

BS, Materials Science & Engineering, Johns Hopkins. Seven-plus years in real estate operations.

Chu Ding, PhD
Director of Compliance

PhD, Civil Engineering, Johns Hopkins. Leads standards, testing and approvals.

Supported by Johns Hopkins' Pava Center, the Maryland Energy Innovation Accelerator and the Maryland Technology Internship Program.

Let's talk tile.

Investors, builders, manufacturers, researchers: we'd like to hear from you.

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WEB	www.jjinnovativematerials.org
DELIVERY	Serving the Mid-Atlantic. Elsewhere? Just ask.