



Lightweight Mold Proof Mineral Composite Building Products

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Problem

Mineral Composite

ARIS Inc offers lightweight, mold and insect proof, fire and moisture resistant structural and non-structural building products for military housing and infrastructure construction.

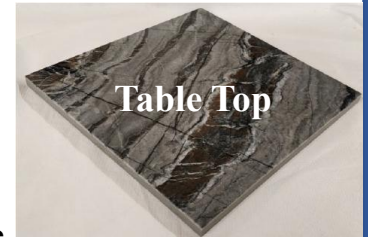


Challenge

Wood is commonly used in building construction because of its superior mechanical properties and its availability. The organic cellular content is prone to mold, a serious problem to soldiers and occupants of the buildings.

Solution Specifics

- Mineral composite made of Coal Combustion Residuals (CCRs) and small amount of polymer is:
 - Lightweight, mold and insect proof, and structural building products.
 - Fire resistant - no ignition and little heat release
- Inexpensive feed stock, widely available.



Unique Selling Proposition

- ARIS Inc. manufactured at lab scale & field tested.
- Easily configurable and scalable to fit military needs
- Nailable, drillable, and paintable like wood



Impact and Technical Approach

Technology Readiness Level (TRL): 4 - 6

Manufacturing Readiness Level (MRL): 3 - 4

What is the Impact of your Solution?

- Mold and insect proof, fire safe, inexpensive (structural and non-structural) building products made by repurposing mineral residuals.

What is the Technical Approach?

- Encapsulation of CCRs with a small amount of polymer using advanced manufacturing offers diverse building products.

Performance

End-user payoff:

- Manufacturing can be easily setup at/near coal burn electric plants, inexpensive and abundant feed stock, uses mostly chemical energy for manufacturing. The product is superior to and more versatile than wood products.



Dual-Use applications:

- Commercial buildings products – siding, trim, wall panels, fence posts, etc.
- Disaster relief houses, flood resistant walls, etc.

