

An Innovative Solutions for Green Building

Enhancing Sustainable Building with
"AH" Lightweight Insulation Block

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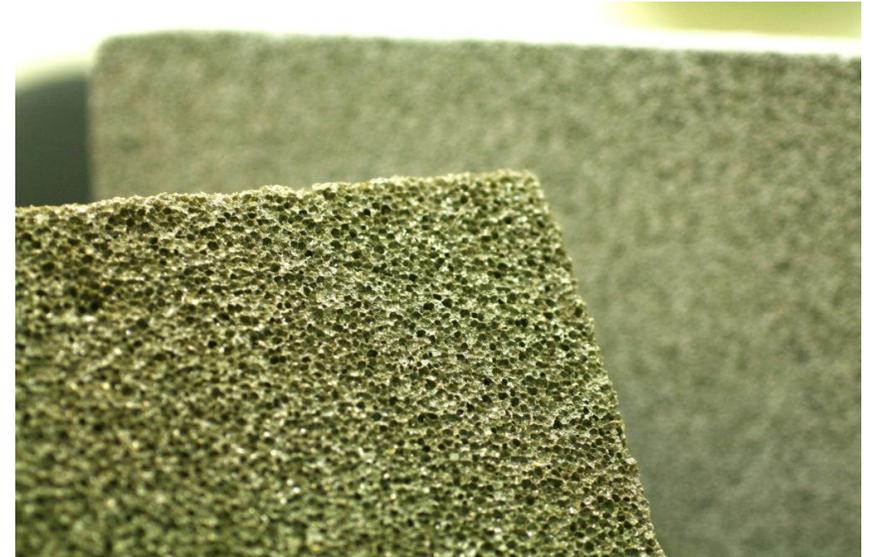


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“AH” Block

(Why “AH” Lightweight Insulation Block)

- AH Lightweight Insulation Block is an innovation building material made from recycled LCD glass
- It is environmentally-friendly and non-toxic
- Certified non-combustible with a 2 hours/4 hours fire rating by TUV SUD PSB, Singapore
- Provides excellent thermal insulation, sound reduction, and is lightweight
 - ✓ Fire Resistant
 - ✓ Sound Reduction
 - ✓ Thermal insulator
 - ✓ Environmentally Friendly
 - ✓ lightweight building block

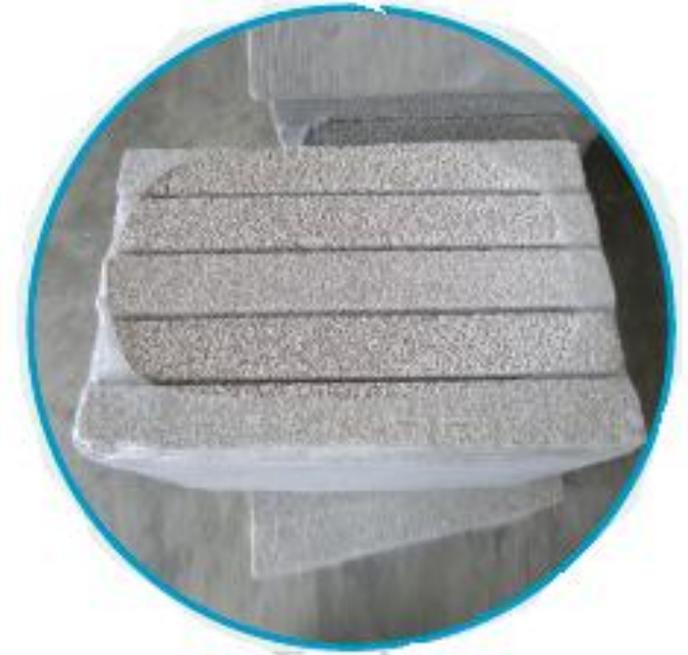


“AH” Block

(Why “AH” Lightweight Insulation Block)

The “AH” lightweight Insulation Block :

- a) Lightweight: Reduces up to 50% of the weight of traditional construction materials
- b) It's easy to install in both New and Existing developments and can be scale-up for adoption
- c) It's deployable in Any configurations – wall, ceiling, floor or roof.
- d) The wall/floor system is quick to erect with its simple installation method
- e) Eco-Friendly, made of 70% recycled LCD glass, durable and fire rated. It is also fully recyclable at end of life (zero wastage).
- f) Available solution that is ready for deployment now



“AH” Block (Advancing the Design and Construction of Industrial and Commercial Buildings)



“AH” block aligns with the vision for sustainable, efficient, and eco-friendly building solutions.



Reduces carbon footprint through innovative recycling and manufacturing processes



Supports construction efficiency with shorter build times and minimal waste.



Enhances building safety and environmental performance.

"AH" Block

("AH" Block – An Environment-friendly Building Material)

Sustainable Practices:

Eco-Friendly Manufacturing: "AH" blocks are produced using Type II Green LCD Glass Recycling, significantly reducing waste and environmental impact.

Low Carbon Footprint: The manufacturing process is designed to minimize greenhouse gas emissions, aligning with commitment to sustainability.

Resource Efficiency: Utilizes recycled materials, reducing the need for virgin resources and supporting circular economy principles.



“AH” Block (Efficiency and Cost Savings)

Energy Saving

- ✓ **Thermal Insulation:** Low thermal conductivity insulates interiors from external weather, reduces heating and cooling demands, contributing to lower energy consumption

Construction Efficiency:

- ✓ **Shorter Construction Time :** With a work rate of 20m² per person per day, AH blocks contribute to shorter construction timelines, enhancing overall project efficiency.
- ✓ **Higher Work Efficiency:** The lightweight nature and ease of handling reduce labor intensity and associated costs, improving project profitability.
- ✓ **On-Site Waste Reduction:** The dry construction method keeps building sites cleaner and reduces waste disposal requirements, streamlining construction operations.
- ✓ **Overall Construction Cost Savings**



"AH" Block (Promotes Safe, Healthy, and Quality Living Environment)



Safety and Environmental Performance:

Fire Safety: AH blocks provide 2 & 4 hours of fire rating integrity, ensuring high levels of fire resistance and occupant safety.

Non-Toxic Composition: Certified by TUV laboratories, AH blocks are free from asbestos and formaldehyde, promoting a healthier living environment.

Acoustic and Thermal Performance: Superior sound insulation with a 42 dB sound barrier meeting demands for quiet environments, and low thermal conductivity for better energy efficiency.

Moisture Resistance: Resistant to dampness and moisture, enhancing the longevity and durability of buildings.

"AH" Block

("AH" builds Sustainability & Value)

- Made of Recycled LCD Screen Glass with R & D in Cambridge University, UK
- Manufacturing plant in Taiwan due to the amount of recycled LCD glass collected
- Optimisation of e-waste with reduced embodied carbon of our building blocks
- Promote environment conservation. Reduce consumption of raw materials.
- Fully recyclable upon EOL to reduce impact to environment = Zero Waste
- Supports UNSDGs Goals. Builds Sustainability.



Showcasing of some projects using "AH" Blocks



Indoor partition
(Fire Rated & sound insulation)



Building roof-top for waterproofing
and heat insulation

"AH" Block (Uses "AH" Lightweight Sound Insulation Block)

- **Suitable for commercial & industrial buildings/applications**
- **Ideal for environment requiring fire-proofing sound insulation and thermal regulation.**
- **Applicable to all types of partition walls, fire doors, ceiling and more**
 - Applicable to light steel buildings
 - Offices; Commercial Spaces; Schools
 - Collective Apartment Buildings; Apartments
 - Integrated Housing; Leisure Residential Buildings
 - Rooms; Suites; Villas
 - Factories; Warehouses
 - Partition for Box Compartments
 - Shopping Centres; Department Stores; Restaurants
 - Hospitals; Clinics
 - Libraries; Nursing Homes
 - Hotels; Farmhouses
 - High-Tech Electronic Plants
 - Any area and building requiring fire-proofing, shock-proofing, water-proofing, heat insulation or sound insulation qualities



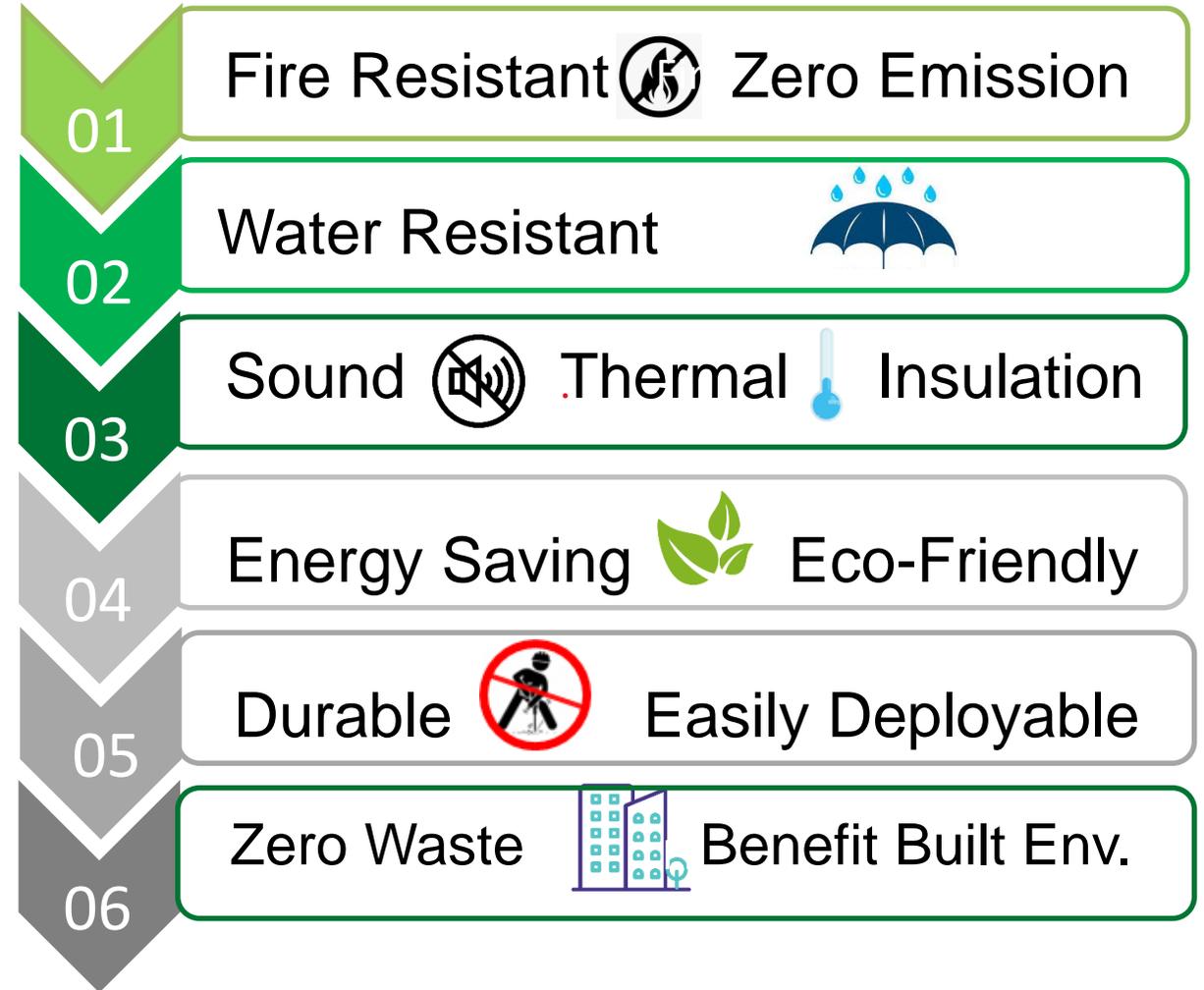
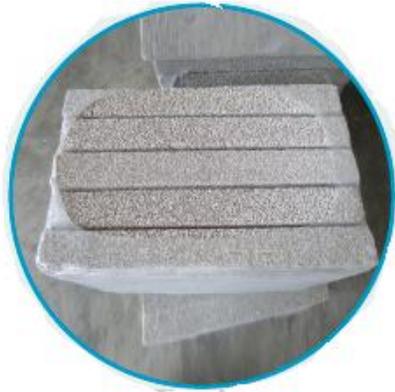
"AH" Block (Potential of "AH" Block)

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- **Technical Advantages:** Lightweight with superior thermal, fire, water, and soundproof insulation compared to traditional materials.
 - **Environmental Impact:** Made from recycled materials, significantly enhancing environmental performance and energy efficiency.
 - **Construction Efficiency:** Easier handling and reduced transportation costs due to lightweight properties.
 - **Adoption Trends:** Aligns with the growing demand for eco-friendly construction practices and adherence to stringent environmental regulations.

These factors collectively position "AH" Block as a highly promising solution in the construction materials market and the block are ready for immediate implementation.

"AH" Block
(In Summary)

The "AH" Lightweight
Block offers



"AH" Block

(Why is "AH" Block Feasible for New & Existing Developments)

Wall Type	RC WALL	1/2B BRICK WALL	WHITE BRICK WALL	BLOCK PRE-EAST WALL (CERAMIC BOARD)	LIGHT PARTITION GROUT WALL	LIGHT PARTITION HOLLOW WALL	"AH" LIGHTWEIGHT SOLID WALL
Wall Thickness	10~15 cm	12~15 cm	12cm	8~10 cm	Longer than 7.7cm	7.7~10 cm	7.7~11 cm
Wall Weight	Over 350kg/m ²	Over 260kg/m ²	85kg/m ²	85kg/m ²	80kg/m ²	37kg/m ²	Over 45kg/m ²
Sound Insulation	40 dB	38 dB	38 dB	40 dB	40 dB	30~38 dB	42 dB
Nail Hanging Load	Good	Good	Accessories needed for reinforcement	Good	Poor (high uncertainty)	Poor	Over 75kg
Work Speed	Slow	Slow	Average	Average	Average	Fast	20/ m ² /man/day
Piping	Difficult	Difficult	Pipe drilling required	Pipe drilling required	Embedded water and electricity pipes required	Embedded water and electricity pipes required	Convenient
Fire Aging	1~2 hrs	1~2 hrs	1~2 hrs	1~2 hrs	1~2 hrs	Over 1 hr	Over 2 hrs
Work Method	Wet	Wet	Dry	Semi wet	Semi wet	Dry	Dry
Waste	Site pollution	Site pollution	Site pollution	Site pollution	Site pollution	Site pollution	Product waste can be fully recycled

"AH" Block
("AH" List of TUV Certificates Awarded)

- Thermal Conductivity Test
- Sound absorption on insulation block
- Airborne sound transmission
- Certificate of Conformity/Declaration Of Conformity
- COC Class A1 Fire Reaction (EN 13501- A1)
- 2/4 hours Fire Rating (BS 476 Pt 22)
- Non combustibility (BS 476 Pt 4)
- AHBPLS Certificate (Green Building Label)
- Non-Toxicity
- Zero Asbestos Test
- Strength & Robust Test



THANK YOU



We welcome any feedback and question

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