

Expanded Clay Aggregate (ECA)



Ultimate Green Construction Material

ADVANTAGES OF EXPANDED CLAY AGGREGATE (ECA) & DISADVANTAGES WITH LEGACY CONSTRUCTION MATERIALS

ECA Blocks, Aerated Concrete Blocks & Bricks

Expanded Clay Aggregate (ECA) Blocks



Aerated Concrete Blocks



Traditional Bricks



- ✓ Self Water Curing and No shrinkage
- ✓ Easy to groove, cut, nail, drill & shape
- ✓ Mortar expense reduced by 70%
- ✓ Easily coated with plaster
- ✓ Less coping requirement

- ✗ Higher Water Absorption
- ✗ Can't Hold Nails
- ✗ Hard to carve conduit
- ✗ Plaster doesn't stick well

- ✗ Higher Self Weight than AAC
- ✗ Lower Compressive Strength
- ✗ Not Environmentally Friendly
- ✗ Up to 20% breakage

So, What is Expanded Clay Aggregate (ECA) ?

Expanded Clay Aggregate (ECA) is pellet structure rounded in shape and generally range in size from 0-30mm

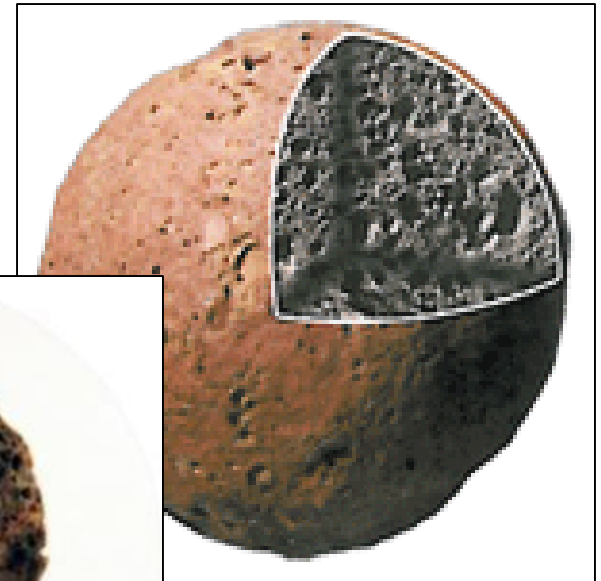


Expanded Clay Aggregate (ECA) is produced by firing natural clay at temperature of 1200°C



WHAT MAKES IT A WONDER MATERIAL ?

The result is a hard, honeycombed structure of interconnecting voids within the aggregate



The Intrinsic structure makes it Extremely lightweight, strong and the material with high acoustic insulation value.

1



Light In Weight

2



**High
Compressive
Strength**

3



**Excellent Sound
Insulation Property**

An excellent thermally insulating material which is fire resistant too

4



Thermal Insulation

5



Fire Resistant

WHAT MAKES IT A WONDER MATERIAL



Water Absorption 18 to 23 % of size

Cylinder Compressive Strength 0.6 to 3.0 N/mm²

Dry Thermal Conductivity 0.097 to 0.10 W/mK

Surface Alkalinity Neutral pH

Bulk Density 300 to 750 Kg/m³

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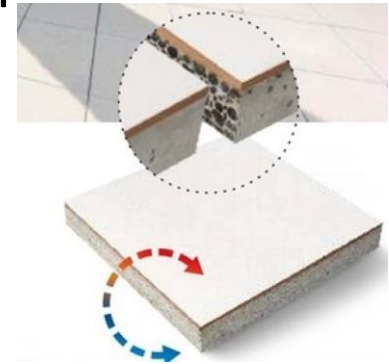
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Accredited as a Green Product by
LEEDS, USGBC & IGBC (under approval)
As a “GREEN” alternative to traditional
construction materials



Expanded Clay Aggregate (ECA) Versatile Applications

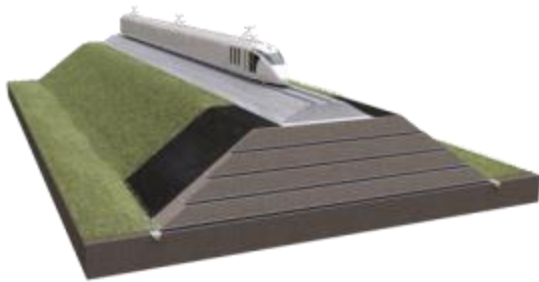
Expanded Clay Aggregate (ECA) is used for Construction Blocks, Wall panels, RCC, PCC, Aggregate Mortar for Sound and Thermal Insulation, Roof Tiles for Insulation, Plastering, Flooring, Back fill and drainage applications.



- Lightweight (Dead load Reduction)
- Excellent Thermal insulation
- High Acoustic Resistance
- Moisture Impermeable
- Incompressible under permanent pressure & gravity loads
- Termite & Pest resistant
- Non-decomposition even in severe conditions
- Excellent fire resistant
- Freezing and melting resistance
- Easy to Transport
- Lightweight backfill and finishing
- Fast Construction
- Earthquake lateral load reduction

Expanded Clay Aggregate (ECA) Versatile Applications

Geotechnical fillings – Foundation of Any structure to withstand load and facilitate excellent drainage



Strong enough
to support
railway load



Landscape &
Elevated plaza fills
such as stadiums



Bridges, Airstrips,
building
Foundation

Expanded Clay Aggregate (ECA) Versatile Applications



- Geosynthetic tubes
- Backfill
- Filtration
- Separation
- Drainage
- Barrier
- Protection
- Erosion control (coast and waterways)
- Slope erosion control

Marine & Coastal Applications

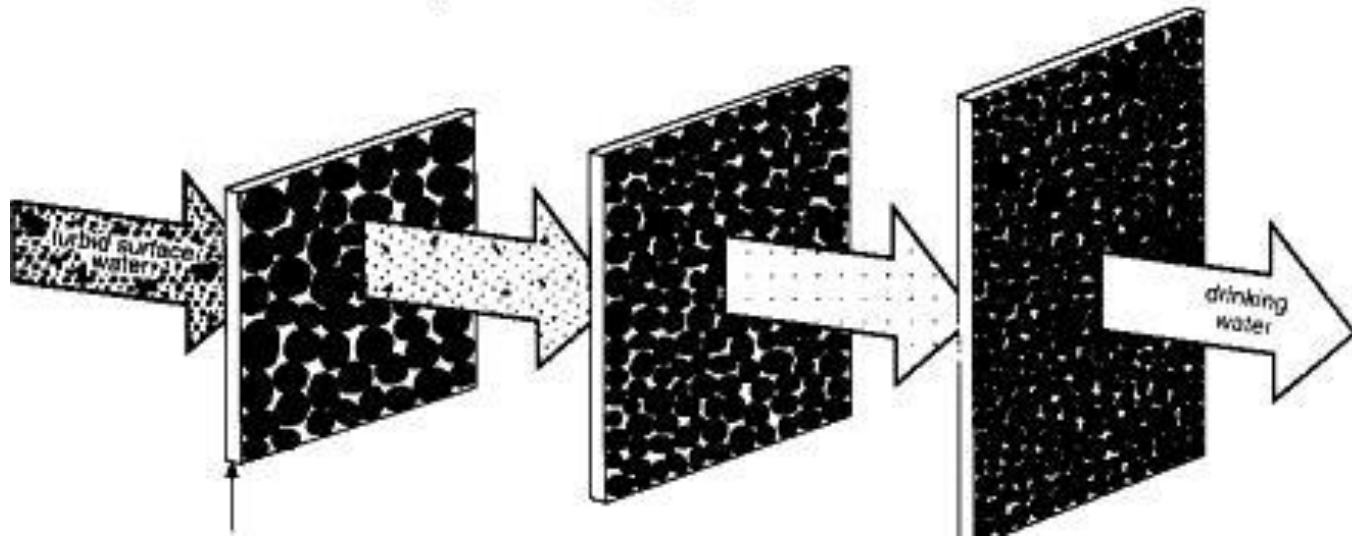
Expanded Clay Aggregate (ECA) Versatile Applications

ROAD CONSTRUCTION

- Sound Absorbent road surfaces
- Improving Anti-Skid Road surfaces (Race Tracks), including on drained anti-skid surfaces as compared to best basalts

Expanded Clay Aggregate (ECA) Versatile Applications

Water Treatment



- Supplementing Advance Nano Oxidation Technology
- Conventional water treatment facilities Excellent Thermal insulation
- Petrochemical Industry Effluent Treatment
- Filtration and purification of municipal wastewater, drinking water, industrial wastewater and fish farms.

Expanded Clay Aggregate (ECA) Versatile Applications

Sound absorbent noise- insulating acoustic barriers & Road Safety



- Sound absorbent facings for existing walls
- Protecting residential areas from NOISE of Road Railways, Factories
- Passive Impact Protection System
- Used as a landing bed for boulders
- Emergency Road Escape Lanes
- Landing Beds and road for rock fall protection

Permaculture Applications : Aquaponics, Hydroculture, Hydroponic, & Agriculture



- Perfect sweet soil for plants
- Growing medium for creating a lush environment
- Reservoir for irrigating water and fertilizers
- Blended with other growing mediums such as soil to improve drainage
- Longer water retention during periods of droughts
- Deeper root penetration

Landscaping & Roof Terrace Gardening





Credit: Bosco Verticale by Stefano Boeri

Expanded Clay Aggregate (ECA) Versatile Applications

Complex Architectural Challenging Projects

- Construction on ground of poor load bearing capacity
- Structures whose self-weight exceeds the loads they carry
- Reducing Thermal Bridging in thermal envelope

Citation Example:
City Life residences Milano

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Reference: NET tower Padua Italy

Cost Efficient & Convenient



- Mortar expense is reduced by over 70%.
- Requires less steel during construction and needs less coping
- Reduced cost of transportation & handling
- Low wastage
- Higher return on Investment



For Greener Tomorrow

Expanded Clay Aggregate (ECA) is a 100% natural material which has been invented to protect and nurture our beautiful cities, countries and planet Earth without costing an Earth.



303, 3rd Floor, Royale Manor, Law Garden,
Besides Rangwala Towers, Behind N.C.C. Ground,
Dhulia Kot Road, Ellis Bridge,
Ahmedabad - 380006, Gujarat, India.



Phone +91 -79 - 26462688
Phone +91 - 79 - 26463395
Email green@rivashaaeco.com
Url: www.rivashaaeco.com

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