



Expanded Clay Aggregate (ECA)

Rivashaa Eco Design Solutions Pvt Ltd proudly brings to you a revolutionary Make In India product called **Expanded Clay Aggregate (ECA)**. Also, Rivashaa Eco Design Solutions is the first to introduce **Expanded Clay Aggregate (ECA)** to India.

Expanded Clay Aggregate (ECA) is a unique **Green Construction Material** which is **100% natural** and inert light weight aggregate.

Expanded Clay Aggregate (ECA) is a round pellet structure produced by firing natural clay at temperature of 1200°C. The result is a hard, honeycombed structure of interconnecting voids within the aggregate. The particles formed are round in shape and generally range in size from 0-30mm. These are processed to the required grading, depending on the **versatile applications**.

Benefits

- 100 % Inert
- Light in Weight
- High Compressive Strength
- Micro Porous Structure
- Non-Toxic & Eco- Friendly
- Good Water Absorption
- Good Water Drainage
- Surface Alkalinity Neutral
- Excellent Thermal Insulation
- Excellent Sound Insulation
- Insect-Proof
- Low-Coefficient of Thermal Expansion
- Excellent Fire Resistance
- Earthquake Resistant
- High Resistance to Water Absorption
- Excellent Filtration Media for Effluents & Waste Water Treatment

Technical Specification

Sizes: 0-30mm (0-1, 0-2mm, 2-8mm, 8-15mm, 15-30mm)

Bulk Density: 300 to 750 kg/m³

Cylindrical Compressive Strength: 0.6 to 3.0 N/mm²

Dry Thermal Conductivity: 0.09 to 0.10 W/mk

Surface Alkalinity: Neutral pH

Water Absorption: 18 to 23 % of size

Versatile Application

Landscaping Roof Terrace Gardens, Planters, Vertical Garden, Turfs, Sports Fields, Agriculture, Horticulture, Hydroponics, Urban Trees and the like.

Construction Blocks, Wall panels, RCC, PCC, Aggregate Mortar & Roof Tiles for Sound and Thermal Insulation, Plastering, Flooring, Back fill and Drainage use.

Filler material for Sound Transmission Class (STC applications).



Expanded Clay Aggregate (ECA)

Physical Properties of Expanded Clay Aggregate (ECA) 2-8 mm, 8-15 mm, 15-30 mm

Description	Expanded Clay Aggregate (ECA) 2-8 mm, 8-15 mm, 15-30 mm
Water Of Plasticity %	53.4
Dry MOR (kg/cm ²)	15.6
Shrinkage %	2.67
Loss On Ignition %	11.18
Fired MOR (kg/cm ²)	150.8
Forming Pressure (kg/cm ²)	200
Temperature C	1116/1094
Cycle Min.	28

Chemical Analysis Reference for 8-15 mm Expanded Clay Aggregate (ECA)

Chemical Analysis Reference for 2 - 8 mm Expanded Clay Aggregate (ECA)

Description	Expanded Clay Aggregate (ECA) (8-15 mm)
SiO ₂ %	61.18
Al ₂ O ₃ %	17.68
Fe ₂ O ₃ %	13.59
CaO%	1.96
MgO%	1.53
K ₂ O%	1.14
Na ₂ O%	1.24
Loss On Ignition%	0.36

Description	Expanded Clay Aggregate (ECA) (2-8 mm)
SiO ₂ %	48
Al ₂ O ₃ %	16.24
Fe ₂ O ₂ %	16.8
CaO%	0.42
MgO%	0.56
K ₂ O%	0.7
Na ₂ O%	1.1
Loss on Ignition%	16
Moisture	12.73



Expanded Clay Aggregate (ECA)

Chemical Analysis Reference for 7-15 mm size Expanded Clay Aggregate (ECA)

Test Result of 7 - 15 mm size Expanded Clay Aggregate

IS SIEVE DESIGNATION	PERCENTAGE PASSING	LIMITS PERCENTAGE PASSING
19.0 mm	100.0	NA
17.0 mm	93.5	NA
10.0 mm	26.01	NA
6.3 mm	1.45	NA
4.75 mm	0.50	NA
Other Properties		
Crushing Strength	1.12 N/mm ²	NA
Water Absorption%	17.00%	NA
Ph	8.06	NA
Loose Bulk Density	310 Kg/m ³	NA
Clay Lumps	0.20%	NA
Thermal Conductivity	0.11 W/mk	NA

Chemical Analysis Reference for 4 - 10 mm size Expanded Clay Aggregate (ECA)

Test Result of 4 - 10 mm size Expanded Clay Aggregate

IS SIEVE DESIGNATION	PERCENTAGE PASSING	LIMITS PERCENTAGE PASSING
12.5 mm	100.0	NA
9.5 mm	100.0	NA
4.75 mm	20.97	NA
2.36 mm	1.12	NA
Other Properties		
Crushing Strength	2.26 N/mm ²	NA
Water Absorption%	18.00%	NA
Ph	8.05	NA
Loose Bulk Density	530 Kg/m ³	NA
Clay Lumps	0.1 %	NA
Thermal Conductivity	0.10 W/mk	NA