



expanded
clay
**SUSTAINABLE
USE
EVERYWHERE**

EXCA
EUROPEAN EXPANDED CLAY ASSOCIATION
Building our future



Expanded clay, an unique lightweight aggregate with versatile applications. The only “all-in-one” aggregate with sustainable use “everywhere”.

Expanded clay is a high quality, durable lightweight aggregate, being used for decades. The main characteristic of this product is the **density / strength** relation, having low density and relatively high strength. Besides this ratio expanded clay also holds a number of other sustainable features like **thermal and acoustic insulation, fire resistance, drainage, re-usable, no leaching**, etc why it is referred to as the “all-in-one” lightweight aggregate.



green



buildings



Due to its unique characteristics, expanded clay has broad range of applications “everywhere”; like in the housing, infrastructure and green projects. For each of the mentioned applications expanded clay will bring to the project a number of benefits as illustrated in this leaflet.



infrastructures

all in one product

Expanded clay is well defined in several product specific harmonized European standards, and all declarations are done in accordance with approved European test standards. Necessary modifications due to the new CPR is adopted and implemented.



everywhere

Expanded clay has a huge variety of uses; from flower pots where it is used to improve and control growth of plants and trees to production of lightweight structural concrete bridge elements for structures in harsh Northern Seas.

Expanded clay aggregate is everywhere, significantly contributing to improving our build environment, even if not always visible. Expanded clay is an All-In-One aggregate, holding numerous of sustainable properties. Not all the properties will be the primary function in specific applications, being that a house or infrastructure construction, but certainly it will bring the desired function.

Furthermore, expanded clay will always bring additional properties to the application that certainly will improve the sustainability of the final construction. In the following pages the main properties are illustrated, linked to the main construction elements.



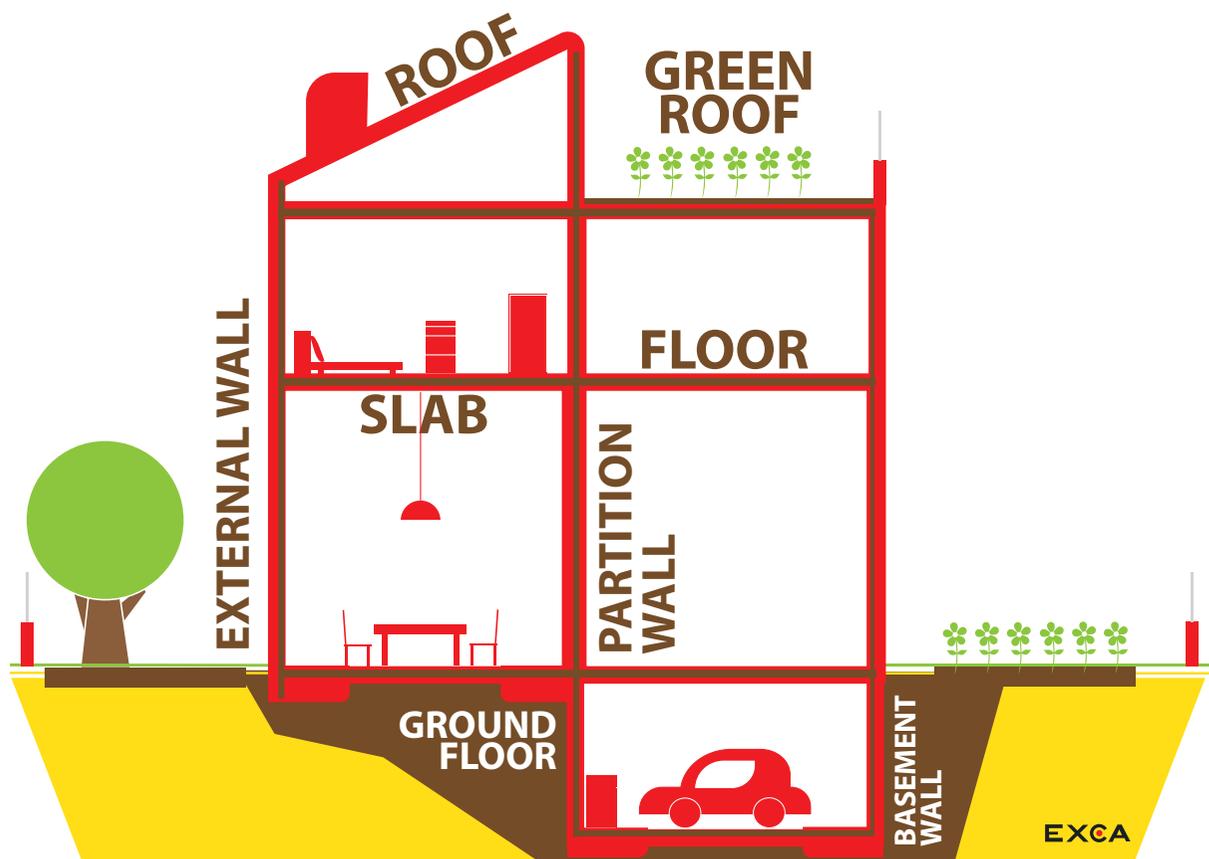
buildings

Expanded clay aggregate is used extensively in new buildings, the restoration of historical buildings and renovation projects.

Expanded clay can be used in all elements of construction from foundations to rooftop. It is primarily used in internal and external masonry walls, both in

blocks and mortar as well as providing insulating layers in floors, roofs and basements. When used in house building, **the material offers high levels of thermal and acoustic comfort and contributes to improved energy performance and home environment quality.**

The unique material properties provide solutions for stabilizing and restoring foundations of historical buildings while preserving the original structures.



Floor

- Lightweight
- Thermal insulation
- Acoustic insulation

Light weight mortar and concrete

- Lightweight
- Durable
- Thermal insulation

Roof insulation

- Thermal insulation
- Acoustic insulation
- Lightweight

External wall systems

- Thermal insulation
- Lightweight
- Durable

Basement wall

- Thermal insulation
- Drainage
- Low earth pressure

Partition wall load bearing

- Sound insulation
- Fire resistance
- Durable

Green roof

- Lightweight
- Drainage
- Water absorption

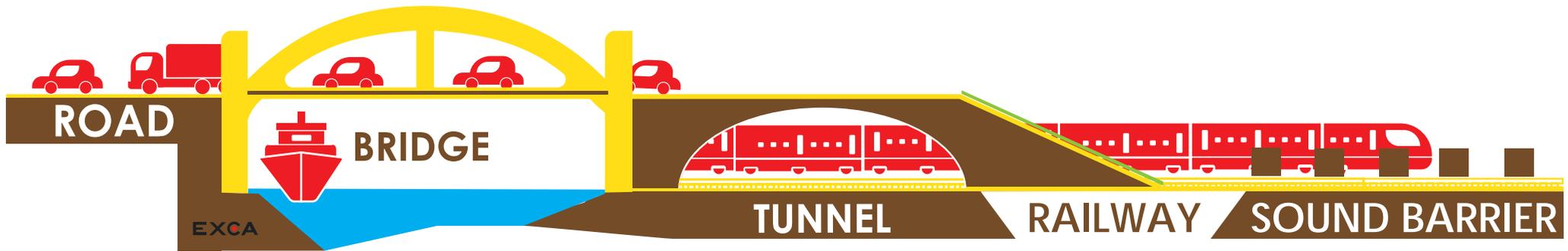
Partion wall non load bearing

- Acoustic insulation
- Fire resistance
- Durable

Ground floor

- Drainage
- Radon ventilation
- Thermal insulation

infrastructures



Expanded clay is used in civil engineering projects including road and railway embankments. The material's lightweight characteristics and durability provides engineers with proven solutions for challenging ground conditions. Other uses include bridge abutments, retaining walls, tunnels and pipeline coverings. Expanded clay is used in building foundations including where there are unstable ground conditions. This is particularly important in the reclamation of urban "brown-field" sites. It is also used in noise barriers and in engineering works built to mitigate the environmental impact of infrastructure projects.

Road

- Thermal insulation
- Drainage
- Frost resistance
- Lightweight
- Strength
- Durable

Sound barriers

- Acoustic insulation
- Urban decoration
- Durable

Bridge

- Lightweight
- Strength
- Durable

Tunnel

- Fire resistance
- Lightweight
- Strength
- Durable
- Drainage
- Frost resistance

Railway

- Thermal insulation
- Drainage
- Frost resistance
- Lightweight
- Strength
- Durable

Harbours

- Lightweight
- Strength
- Durable

green



Expanded clay aggregate is used in landscape restoration around our parks and the green areas surrounding urban developments. Green roof gardens act as a buffer for rainwater, which seeps slowly through the layers **reducing the surge water caused by heavy rainfall**. This also allows time for **water evaporation**, hence further **reducing pressure on urban drainage systems** and providing green urban areas for the development of flora and fauna. Expanded clay has a number of environmental benefits.

Its ability to absorb gases and dust particles helps the recovery of air humidity levels in the atmosphere and improves air quality. Extensive use is made of expanded clay in **drainage and water management projects** and the unique structure of the aggregate is ideally suited to water and air filtration systems. Leisure uses include foundations for sport surfaces and run off safety areas for motor sports. It is used in agriculture and horticulture as a **growing medium for plants** and even **processing waste farm slurries**.

Agriculture Horticulture

- Drainage
- Lightweight
- Environmental friendly

Leisure, Sport

- Lightweight
- Strength
- Durability
- Drainage

Filtration

- Water cleaning
- Drainage
- Inert

Landscape Restoration + Parks

- Lightweight
- Re-use
- Drainage
- Inert

EXCA

EUROPEAN EXPANDED CLAY ASSOCIATION

EXCA, European Expanded Clay Association, asbl
Bd du Souverain 68, Vorstlaan 68, B-1170 Brussels, BELGIUM
Telephone +32 2 790 42 04 | Fax +32 2 790 42 05
info@exca.eu | www.exca.eu

