

Nexclay

Expanded Clay



Nexclay is
Natural, Light
and Resistant





From extraction to marketing, the entire process is controlled with total dedication in continuous work. More and more, we are determined to share our knowledge, present innovative solutions, contribute to the quality of construction, provide more comfort and economy.

We know how to make expanded clay, the best expanded clay

About Us

Founded in 2002 as Argex, the company of the Preceram Group, producer of expanded clay, which over the years has had constant growth, now adopts in 2023 a new identity that better reflects our dedication to **innovation, sustainability, modernity and ability to satisfy the customer.**

Our facilities are in central Portugal, next to Aveiro, it has easy access guaranteed by a good road network. It has the proximity of the **port of Aveiro**, which guarantees the shipment of large quantities of expanded clay to the whole world by sea.

Nexclay has a fast and efficient **distribution fleet** that covers the entire national territory, which brings Nexclay expanded clay to a large number of projects.

Manufacture

Nexclay expanded clay is an insulating material produced from a careful selection of natural clay. When heated in ovens at high temperatures (1200°C), gases are produced that cause its expansion and the formation of micropores, which give it lightness and provide it with high thermal and acoustic insulation.



Certifications



Quality and Environment

Nexclay expanded clay meets the requirements of standard **EN 13055-1**, according to system 2+, which recognises the existence of strict internal quality control, certified by an outside entity. Nexclay holds **ISO 14001** Environmental Management System Certification and **ISO 9001** Quality Management System Certification.

Sustainability

Nexclay expanded clay also has the **"Sustainable Value" sustainability certificate, an ecological label based on the ISO 14024 standard**, awarded by the Sustainable Construction Portal, I, which demonstrates its commitment to assume environmental and quality responsibilities far beyond compliance with applicable legislation.

Expanded Clay



Interior
Poroso e Leve

Crosta Exterior
Resistente



Main Characteristics

- Light weight and stability
- Unchangeable over time
- Non-flammable and odorless
- Electrically neutral and hypoallergenic
- Strength and dimensional stability
- Thermal and acoustic insulation
- Natural and ecological
- Economical and easy to apply

Nexclay expanded clay is a **light aggregate with a spherical format**, with an internal structure formed by a **ceramic foam** with micropores and a **rigid and resistant surface**, which makes the product an important solution for the construction sector.

Nexclay is a natural, ecological, durable, fireproof and inert product. It does not decompose or rot, and it is light and capable of storing a certain amount of moisture, which it slowly releases.

Its use allows to **reduce the weight in the structures** and contributes to a significant saving of materials. Due to its internal porosity, it has important **thermal and acoustic insulation properties**.



LIGHT



RESISTANT



ACOUSTIC
INSULATION



THERMAL
INSULATION



FIRE
RESISTANT



ECOLOGICAL



50 liter bags

Supplied on pallets with 65, 35 and 30 bags of 50 liters.



Bigbag of 1,5 m³

Bags of 1,5 m³ with handles for lifting and handling. The bags are not returnable.



Bigbag of 3,0 m³

Bags of 3,0 m³ with handles for lifting and handling. The bags are not returnable.



Bulk

Loaded at the factory from the silo onto a truck.

Aggregate Sizes



0-2

2-4

3-8F

3-8

8-16



**Lightweight
mortar**

Renders

**Refractory
concrete**

**High-strength
lightweight
concrete**

**Lightweight
mortar**

**Cap vaults
and insulating
concrete
blocks**

**Pumping
concrete**

**Oversized
works**

**Cap
vaults and
insulating
concrete
blocks**

**High strength
insulation**

**Light-weight
fillings**

**Terraces,
flowerbeds
and gardens**

**Thermal and
acoustic
insulation**

Light fill

**Terraces,
flowerbeds
and gardens**

Crushing resistance (± 10%) (MPa)	5,1	4,8	2,0	1,8	1,2
Loose bulk density (± 15%) (kg/m³)	347	313	291	244	236
Particle size distribution (mm)	0,25 – 5,6	4,0 – 8,0	6,3 – 12,5	8,0 – 12,5	8,0 – 20,0
Thermal conductivit (W/m °C)	0,13	0,11	0,11	0,11	0,10
Water absorption (% dry mass)	< 30	24,8	23,9	22,9	22,8
Reaction to fire	Incombustible Euro Category A1	Incombustible Euro Category A1	Incombustible Euro Category A1	Incombustible Euro Category A1	Incombustible Euro Category A1

Where it Applies

Nexclay expanded clay is produced for a wide range of applications, its use allows greater energy savings, thermal and acoustic comfort and environmental protection.

Due to its characteristics, it is the ideal solution for: leveling and insulation of floors, fillings, flat and inclined roofs, soil drainage, manufacture of domes and insulating concrete blocks, substrate and green roofs, horticulture, hydroponics, geotechnical and infrastructure applications, management and treatment of rainwater, applications in WWTP, among others.

Construction / Buildings



Insulation and Light-Weight Filling



Geotechnical / Infrastructures



Horticulture and Landscaping



Versatility for all projects. Whether you are a landscaper, architect, builder or hobby gardener, Nexclay expanded clay is the solid foundation for turning your ideas into reality.

Filtration



Thermosolar



Pre-fabricated Concrete



Construction / Buildings



Where it Applies
See all here
the applications

Lighter slabs

Lightweight insulating
concrete



Pitched roofs

Thermal and acoustic
insulation in roof
ceiling space



Terrace gardens and flower boxes

Drainage layer
and substrate



Flat roofs

Insulation and
creation of slopes



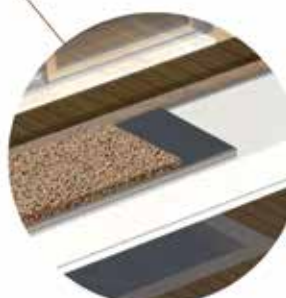
Green roofs

Drainage layer
and substrate



Drainage

Ground level



Levelling and floor

Thermal and
acoustic insulation



Geotechnical applications

Tunnels, lightweight filling
and retaining walls

Insulation and Light – Weight Filling



Nexclay is the ideal solution for a light filler with good mechanical, thermal and acoustic behaviour

Dry flooring

In order to enhance the insulating characteristics, it must be used loose, **watered superficially with watered-down cement**. It is important to use a blanket of resistant material in the separation between the fluctuating flooring and the slab.



Advantages

- Lightness, substantially reduces the weight in the structure
- Thermal and acoustic improvement
- Fire resistance
- Ease of application
- Fast dry



We recommend

Nexclay 3-8

Nexclay 8-16

For fillings of over 5 cm

Application



1 Filled and leveled with dry Nexclay expanded clay.



2 Superficial irrigation with watered down cement.



3 After 24 hours, the floor is prepared for the placement of the final flooring.

SOLUTION

Plain voided slab

AIR-BORNE SOUNDS

Rw = 45 dB

PERCUSSION SOUNDS

Ln,w = 95 dB

With Nexclay floating screed

Rw = 56 dB

Ln,w = 57 dB

ITECONS trial

+11 dB

-38 dB

Consumption for 10 m²

40 kg of cement with about 25 liters of water. Use low rotation mechanical mixer. The consistency must be adequate to allow irrigation.

Concrete mixer

Nexclay expanded clay can also be used previously mixed with **water and cement in a concrete mixer**. To facilitate the mixing process, first add a part of the water to the Nexclay, then the cement and then the remaining water.

Example: Put 2 bags of Nexclay in a concrete mixer with 5 liters of water and mix for a few minutes. Collect 10 kg of cement and gradually add the remaining water (approximately 5 litres).



We recommend

Nexclay 3-8

Nexclay 8-16

For fillings of over 5 cm

In larger works

This system is characterized by the easy execution of fillings in light pumped concrete. The pumping to the application site is carried out by a **tanker truck equipped with a pumping system**, during the application **the binder is added**. The leveling is carried out with a roller and an aluminum rule for a better regularization.



1 The Nexclay is pumped directly to the application site from the tanker.



2 At the same time, the binder is mixed and pumped through a suitable machine, mixing at the outlet of the hose, in its own device.



3 The lightweight concrete must be regularized and leveled in the usual way. It is advisable to wait **24 to 48 hours** before placing the remaining materials (flooring or others).

Insulation and Lightweight Filling

In attics

How to improve the thermal insulation of the last slab?

In the construction or rehabilitation of a building, a quick, efficient and economical way to achieve good thermal insulation of the last slab is with the application of Nexclay expanded clay. This 100% natural product **does not overload the structure**, helps regulate humidity and improves the thermal and acoustic efficiency of buildings, which allows a reduction in energy consumption.

Nexclay expanded clay can be applied loose or in bags.



1 To apply it loose, it is only necessary to spread it evenly over the surface.



2 For application in bags, the entire surface must be covered with Nexclay bags and positioned well together. In the end, you have to fill in the empty spaces with loose Nexclay.



3 If you intend to use this space regularly, you can place plates or another type of support directly on the Nexclay expanded clay.

Advantages

- Thermal and acoustic insulation of the attic
- Easy to apply and low cost
- It does not age or produce fumes during application or along its life span
- it is not toxic and not carcinogenic
- It cannot be attacked by rodents or insects



We recommend
Nexclay 3-8

Did you know you can use Nexclay expanded clay directly on ground floors?

The sealing, drainage and insulation properties of the Nexclay expanded clay allow it to be applied directly in contact with the ground. Nexclay expanded clay provides good thermal insulation and a substantial reduction of possible condensation and moisture in buildings.

Double the thickness of Nexclay expanded clay near the outside walls to reduce the loss of heat to the ground.



We recommend
Nexclay 8-16

For fillings of over 5 cm



Geotechnical/ Infrastructures

Geotechnical – Supermarket, Santarém



**Increasing soil
drainage and reducing
overloads around the
structure**



Geotechnica

Nexclay expanded clay has excellent drainage properties, avoiding moisture from infiltrating the construction. Reduces soil pressure on basement walls and avoids soil settlement around the structure. It provides better stability, reduces settlement and offers exceptional insulation and sub-base compensation.

Nexclay expanded clay has been widely applied on the main geotechnical works of the last few years throughout the Iberian Peninsula.

This is an economical, practical and reliable solution to resolve geotechnical problems.

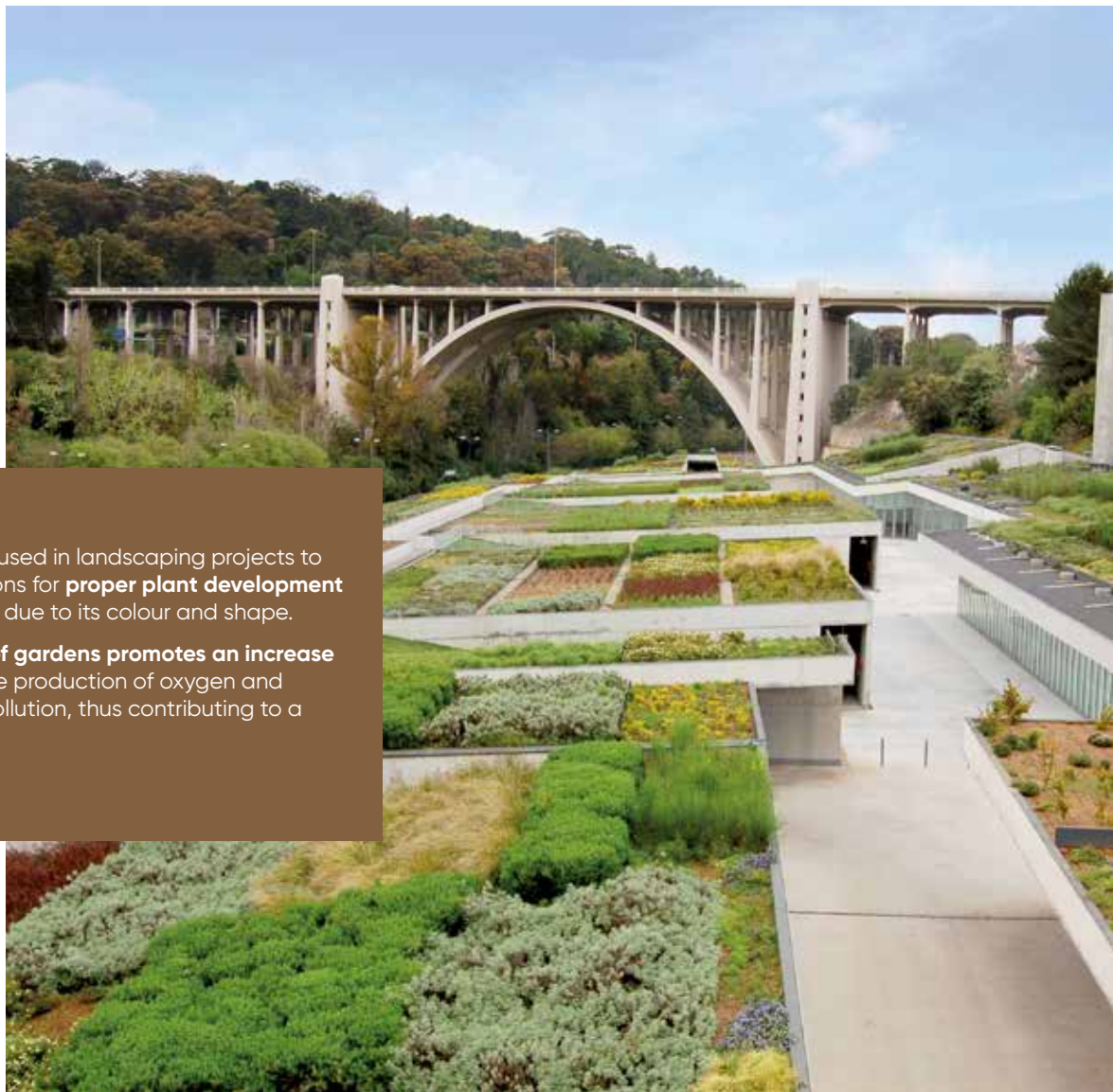


Estádio Alt. Bilbao, Bilbao

Horticulture and Landscaping



Horticulture and Landscaping



Nexclay is being increasingly used in landscaping projects to create the necessary conditions for **proper plant development** and as a **decorative element** due to its colour and shape.

Its application on **roofs or roof gardens promotes an increase in biodiversity**, stimulating the production of oxygen and absorption of atmospheric pollution, thus contributing to a **more sustainable ecosystem**.

Alcântara WWTP, Lisboa

Green Roofs

Nexclay is a natural, ecological, long-lasting, non-combustible and inert product that does not degrade or rot; it is lightweight and capable of storing a certain amount of moisture, which is then slowly released.

Nexclay does not overload the structure, it helps to adjust the moisture and improves the thermal and acoustic efficiency of buildings, which brings down energy costs. It also offers a natural protection to the system and increases the service life of materials used in **sealing and insulation**.

Drainage is an important element in the preservation and durability of roofs and gardens. The use of Nexclay enables the fast drainage of **excessive water** due to the small gaps between the clay pellets, preventing the water from accumulating in the substrate, which helps the plant roots to breathe.



Urban Gardens

The practice of urban agriculture has become an increasingly common phenomenon, especially by people who want to have a healthier diet, with greater control over what they eat, but also as a decorative element in spaces, giving them a “new life” and functionality.

An urban garden is a space (for example, a balcony, a terrace or a garden) intended for the cultivation of plants, vegetables, fruit trees or other types of vegetation. Also, as their name indicates, they are orchards located in cities or urban areas.

Application



1 Fill the background with a layer of Nexclay.



2 Place a geotextile filter over the entire surface and fill with growing substrate suitable for the chosen vegetation.

Both in urban gardens and on intensive or extensive green roofs, the largest granulometries should be used, Nexclay 3-8 and Nexclay 8-16.

Essential in the cultivation of urban gardens, both domestic and collective, Nexclay expanded clay is intended to create the necessary conditions for the correct development of plants.

In horticulture/floriculture, Nexclay expanded clay should be used in the **draining layer** placed at the bottom of the vase or pot, and **mixed with the substrate** to make it lighter, more aerated and better drained, thus favoring better oxygenation of the roots.

Nexclay allows rapid drainage of excess water, due to the small spaces between the clay balls, preventing water from accumulating in the substrate. To avoid the migration of fine particles from the substrate to the drainage bed, it is advisable to use a **geotextile filter**.

Hydroponics

Nexclay is pH neutral, is not compact and is reusable, making the product highly recommended and good for the environment. Nexclay expanded clay is used as a **direct replacement for soil**, mainly in hydroculture and hydroponic systems.

Nexclay expanded clay allows the system to be stable in form and structure, while allowing excess liquid to be absorbed.

Hydroponic cultivation with Nexclay expanded clay is what is called a closed system. Expanded clay is inert, so the plants' nutrition depends on providing a nutritional solution.



Filtration



AT7 WWTP, Figueira da Foz

Applications

- Treatment of wastewater from small housing units
- Treatment of storm water from road runoffs
- Filling of wastewater, domestic and industrial water beds
- Biofilm support
- Biofiltration of wastewater treatment plants (WWTP)
- Fish-farming

Thermosolar

Nexclay expanded clay is used for **insulating and filling** heat storage tanks (salt tanks). It is ideal for this type of application due to its dimensional stability, since it is an **electronically neutral product and does not lose its properties over time**, it has excellent thermal insulation properties and **resistance to high temperatures** (1200°C).

The mechanical and physical properties of the aggregate make it an ideal product to apply in insulating and filling heat storage tanks (salt tanks), normally used in solar thermal plants. It may also be applied in any similar type of large size structure.



Merida Thermosolar Plant, Córdoba

Main Characteristics

- Lightness, resistance, incombustibility
- Dimensional stability and excellent thermal and acoustic insulation properties
- Non-flammable, odourless, electrically neutral and hypo-allergenic
- Does not change over time
- Low thermal conductivity at high temperatures

Pre-fabricated Concrete

Nexclay expanded clay is used extensively in manufacturing lightweight blocks and pre-moulded panels. The product may reduce the weight of the block by up to 30%.

Nexclay is used in pre-fabrication with countless advantages: lightness, mechanical resistance, thermal insulation, acoustical insulation and fire resistance are some of the properties of Nexclay pre-fabricates.

Recommended for

- Blocks for masonry
- Blocks for lightening slabs
- Prefabricated slabs
- Acoustic barriers, etc.

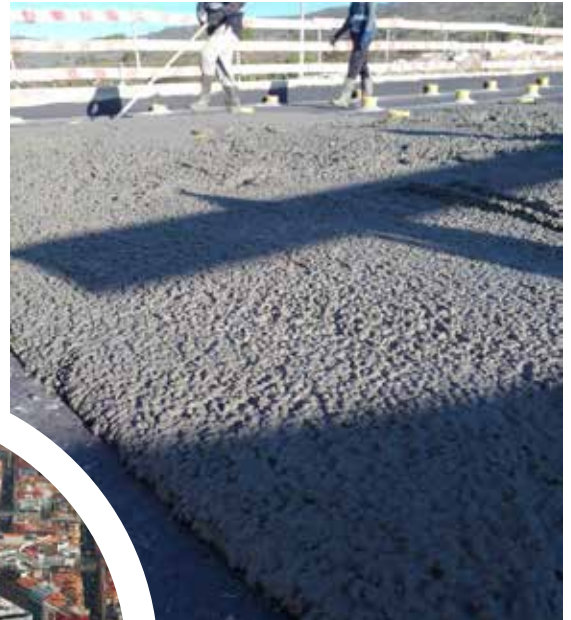


Reference Works

Emporium Building
Porto



Beira Alta Line



Makro
Coimbra



Iberdrola Tower
Bilbao



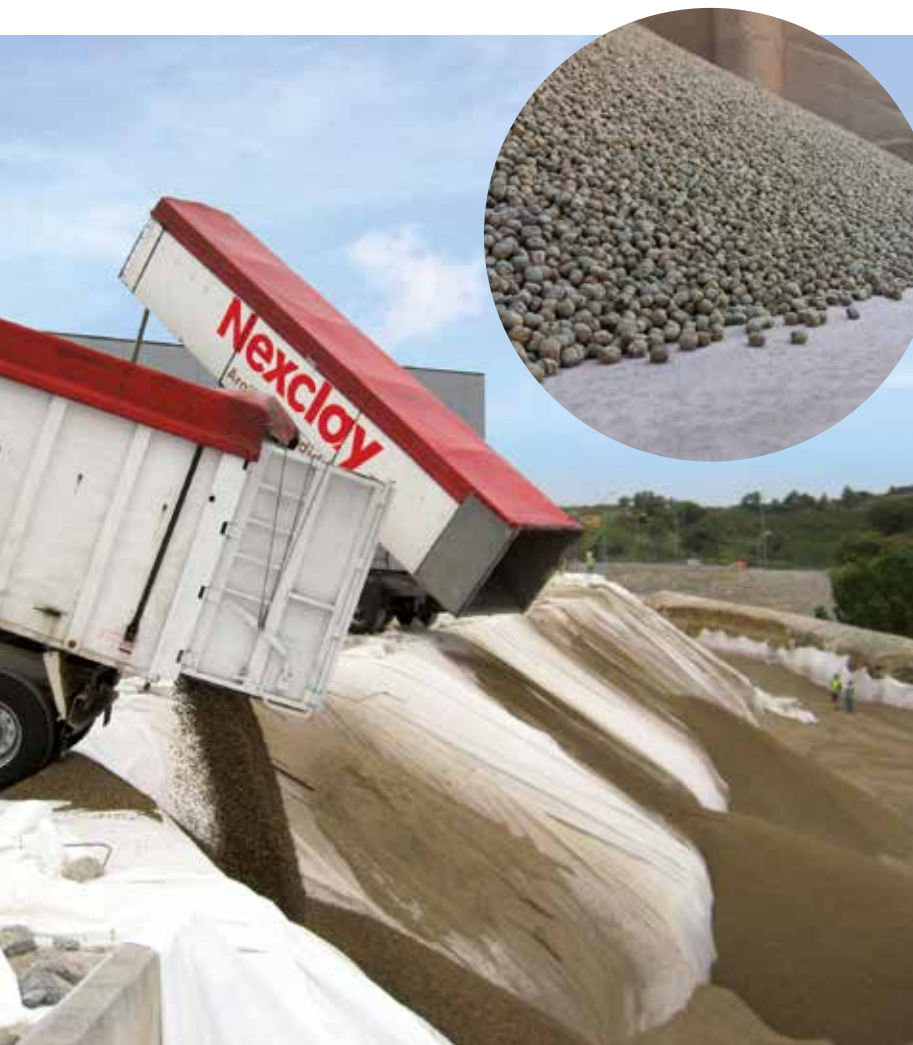
Brisa Highway A14
Montemor-o-Velho



Airport
Lisboa



M50 Tunnel
Madrid



Supply

Located in the center of Portugal, next to Aveiro, it has easy access guaranteed by a good road network. It has the proximity of the port of Aveiro, which guarantees the shipment of large quantities of expanded clay to the whole world by sea.

Nexclay
N 40.50356
W 8.61501



PRECERAM
INDÚSTRIAS DE CONSTRUÇÃO, SA

Nexclay
Argila Expandida

Gyp'tec
IBÉRICA

PRECERAM
NORTE, CERÂMICAS, SA

Só Argilas
Fornecedores de Bateria, SA

Volcalis
Isolamentos Minerais

GRUPO PRECERAM

The Preceram Group is a family group made up of several Portuguese companies with extensive experience and extensive knowledge of the construction sector and the manufacture of construction materials.

With manufacturing units distributed throughout the center of the country (Preceram, Gyp'tec, Nexclay, Volcalis, Preceram Norte), the group produces a wide range of products for construction and rehabilitation, and has a complete and versatile distribution fleet that covers the entire of the national territory.

Nexclay
Argila Expandida

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**GRUPO
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