



GEOPIETRA®

THE MOST BELIEVABLE MANUFACTURED STONE VENEER IN THE WORLD

GEOPIETRA makes the most believable eco-friendly manufactured stone veneer in the world. **Geopietra®** is a mix of Portland cement concrete, lightweight aggregates and permanent mineral oxide-based colours. The stone is manufactured using natural raw materials only and each stone is coloured by hand with great care and transformed into a product of superior craftsmanship, which is absolutely unique. When installed **Geopietra®** achieves the highest degree of excellence and becomes inimitable.

SHAPES AND SIZES Manufactured stone veneer is available in various shapes, textures and formats, in the sizes of maximum 50x40 cm. Each pattern consists of a series of moulds that are obtained from natural stone parts, all different from each other. For example, pattern P03 Botticino consists of 600 different moulds and is available in 7 shades that can be combined as desired. Each pattern comes with special angle units.

WEIGHT AND THICKNESS Weight ranges from 35 to 50 kg/m², according to the pattern and installation method (with or without grouting), including finishing materials. The stone thickness varies from 2 to 7 cm (5cm on average), while the thickness of manufactured bricks ranges from 1.5 to 3 cm, depending on the model.

PATTERNS AND PROFILES The range of patterns includes 50 different types of manufactured stone veneer, with 6 different MASONRY PROFILES: Ledge stone, Opus Incertum, Square, Spontaneous, Castle and Panel. The collection is complemented with Terrakotta brick slips composed of manufactured brick slips and natural brick slips, with endless combinations.

SHADES Manufactured stone is available in 8 basic shades and some special colours, **all can be mixed together and with any other pattern in the collection**, excluding the Panel pattern and the Castle profile which, due to their shape and colour cannot be mixed. The stone colour in nature is the result of an almost infinite range of hues and shades, similarly numerous variables characterize the colour in the **Geopietra®** collection-from the range of stone shades to installation, from the colour of grout (5 colours and 2 different grain sizes for **GeoBi**) to the grouting method.

FINISHES A great passion for building construction has led **Geopietra®** to venture beyond the simple manufacture of materials, and put their skills into the installation, grouting and finishing techniques. All the products used for **Geopietra®** manufactured stone veneer, such as the specific **Geocoll®** adhesive, the range of **GeoBi** two-component grouting mortar, are the result of technical research and in-field experience.

REFERENCE TESTS

ASTM C150, C595, C989 / ASTM C618 / ASTM C144 / ASTM C33, C330, C332 / ASTM C979

Geopietra® manufactured stone veneer complies with and exceeds the requirements of the US building code: 546T / ICC-ES / ER-3568 - NER-602 / LARR # 25589 / HUD # 910

Tests conducted by TÜV Nederland : NEN-EN 772 / 998 / 494 / 196 / 1050 / 771 / 459 / 197 / 413 / 1339.

DENSITY

in compliance with ASTM C 567

1200 Kg / m³

EFFLORESCENCE

in compliance with ASTM C 67:2007

IMMERSION ABSORPTION

 in compliance with EN 14617 - 1

(%) After 1h	(%) After 8h	(%) After 24h	(%) After 48h
+7,8	+13,7	+14,6	+15

RESISTANCE TO BENDING

in compliance with EN 14617 - 2

3,7 MPa

RESISTANCE TO BENDING AFTER 25 FREEZE-THAW CYCLES

in compliance with EN 14617 - 5:2005

3,2 MPa

COMPRESSIVE STRENGTH

in compliance with EN 14617 - 15

21,6 MPa

THERMAL CONDUCTIVITY FACTOR

in compliance with UNI EN 12667

0,1866 W/mK

RESISTANCE TO FIRE

 Non-Combustible

Flame propagation 0

class MO

Fume development 0

in compliance with NF EN 13823

B s1 d0

murogeopietra on external wall thermal insulation

in compliance with NF EN 13823

A2/B s1 d0

SOLAR ABSORPTION in compliance with NF EN 410:2011
BT Earth White α 59 / BM Marble White α 60 / LI Lione α 67 / GT Earth Grey α 70 / MT Earth Brown α 81 / GP Pearl Grey α 89. Mortar Geobi MA marche α 48 / Mortar Geobi GR grigio α 60. Solar absorption affects resistance of adhesive over time. Tests with **Geocoll®** were performed to check the effect. After roughly 15 days of surface heating at 70°C on ceramic samples and Geopietra samples in the same shade there was initial tensile strength of 0.9 N/mm³, then 0.04 N/mm³ was reached with the ceramic and 0.6 N/mm³ with Geopietra. **The thermal inertia of the geopietra product preserves the strength of Geocoll®.**

COLOUR FASTNESS TO SUNLIGHT Only permanent pigments containing mineral oxides are used. The colour sets after 2-6 months of exposure to weather. No unwanted change of colour is observed, even after years of exposure.

RESISTANCE TO VAPOUR DIFFUSION

average value murogeopietra

μ 26,4

Overall μ value greater than 60/70 holds too much dampness behind the covering, compromising the structure's insulation.





GEOPIETRA®

MANUFACTURED STONE VENEER

ADVANTAGES AND POTENTIAL DEVELOPMENT

1. Lightweight. Geopietra® manufactured stone veneer masonry is designed to weigh 50-70 kg/m² according to the chosen pattern and installation method, compared to 600-700 kg/m² of natural stone masonry. This property makes Geopietra® manufactured stone veneer ideal for cladding lightweight structures, such as coating, plasterboard, cement fibre, wooden panels, insulated sheets and mobile structures.

It does not require any particular embodiments for any types of installation, including sky-high ones, or any particular foundation or specifically reinforced structures.

2. Breathable. The healthy function of the housing envelope is guaranteed by the natural ingredients used and excellent breathability of Geopietra® manufactured stone veneer (μ 26.4). The wall breathes, remains dry and allows the natural transition of water condensate. Geopietra® manufactured stone veneer thus enhances the insulation performance of external thermal insulation systems. The new GeoBi two-component mortar has also been lightened using materials that allow an even surface finishing.

3. Resistance and thermal inertia. Experiments on density and porosity have led to the attainment of a perfect balance between resistance and thermal inertia, which makes this solution ideal for installation on thermal insulation and protection of all types of backing. Geopietra® manufactured stone veneer inhibits thermal shocks due to sudden climate changes, has very long absorption and release times. Evidence of it is the flammability conducted in **Austria in 2010** at the **IBS** Institute and the recently performed **test Lepir II** conducted in **France in 2018** at the **CSTB** Institute, where EPS insulation panels were protected by manufactured stone veneer. **murogeopietra on EPS meets criteria for non-propagation of a flame front beyond the next floor level**, and is authorised to cover R+2 category public buildings.

4. Low thickness. The thickness of Geopietra® manufactured stone varies from 3 to 7 cm, while that of manufactured brick is from 1.5 to 3 cm, according to pattern. Reducing the thickness does not affect the end result in terms of aesthetics, function and sensorial feeling: rather it provides great space-saving both indoors and outdoors, which is a major requirement today.

5. Frostproof. Geopietra® manufactured stone veneer is the only product in the European construction industry that can boast 50 years of experience acquired by the parent company, which is tested frost-proof and extensively tested in widely different climates. The technical developments made to make it suitable for installation on thermal insulation systems and the improved weight and thermal resistance have led to an increase in internal micro-porosity, thus creating more space for water expansion when it is transformed into ice. Water absorption has been reduced by a further 20% compared to previous formulations.

6. Colour fastness. Only permanent mineral oxide-based pigments are used for the staining of Geopietra® manufactured stone. It takes 2-6 months of exposure to atmospheric agents for the colour to set using a special process. No undesirable change of colour has been noticed even after years of exposure.

7. Eco-friendly. Geopietra® manufactured stone veneer is made up of natural ingredients only; it reduces the aesthetic attractiveness of natural stone to a few centimetres, and contributes to reducing the quarrying of natural stone and protecting the environment and landscape. Geopietra promotes environmental values and building traditions while pursuing home living comfort and energy efficiency.

8. Functional and quick. Geopietra® manufactured stone veneer is simple to use and the consumption of material can be easily calculated without producing waste—it can be laid using a few simple tools. It is delivered in boxes that are easy and quick to handle on site and on scaffoldings. At the end of work, only the boxes and empty adhesive and mortar bags need to be disposed of.

9. Believable and natural. Mould technology, the exclusive ageing system and the manual processing processes contribute to carefully transforming stone into a product of a superior craftsmanship value, which is never the same. Geopietra® manufactured stone is available in single units of various sizes. Each pattern comes complete with special angle units that give the wall a 3-D effect, thus producing exactly the appearance of a bearing structure made of natural stone.

10. High aesthetical and emotional value. Geopietra® manufactured stone veneer has the ability to convey and express different architectural styles and languages. Thanks to its superior technical features and absolute compatibility with today's building materials and systems, it is highly sought-after for contemporary architectural solutions, by adding character and emotional strength. Geopietra offers the possibility of creating a unique work, expressing personal vision of living and creativity. Its beauty bears the sign of the time passing by and accompanies our true innermost emotions.

11. Full of nuances reminiscent of times gone by: the colouring of the meticulous surface finish makes Geopietra® manufactured stone veneer truly unique. Geopietra has always chosen to replicate not only the hues of natural stone but also its most emotional factor: the passing of time. Geopietra® manufactured stone veneer is processed to convey an antique effect by using colours typical of rust and mosses that give the perception of bygone days, a feeling that even newly quarried natural stone cannot give. For the colour to be so unique, it requires an entirely handmade process, which makes it one of a kind, so much so that no two pieces of stone are the same.

