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**GREENG INNOVATION ECOLOGICAL
BUILDING MATERIALS**





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GREENG INNOVATION SOLUTIONS

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1 - THE CONCEPT OF ECOLOGICAL BUILDING MATERIALS

Ecological Building Materials refers to materials that increase the sustainability and efficiency of a building structure in terms of design, construction, maintenance and renovation. Ecological building materials either exist naturally or can be recycled and renewed. Green building materials are durable, energy efficient and cause minimal operating and maintenance costs. In addition, the increased adoption of green buildings due to the increased awareness of the health and environmental hazards of carbon emissions has supported the growth of the market worldwide. Moreover, the appropriate policies and initiatives introduced by various governments to promote green construction, especially in developed countries, add further momentum to the market.

SOLUTION EXPECTING PROBLEMS

"A shameful 50 year old story of pollution within a civilization story of tens of thousands of years ..."



UNAVOIDABLE, PERMANENT ENVIRONMENTAL POLLUTION

Too much profit in a short time + Unconscious overconsumption + Uncontrolled industrial production = rapidly deteriorating ecology.



ENVIRONMENTALLY HARMFUL INDUSTRIAL RAW MATERIALS DOMINATE THE MARKET

Synthetic origin industrial raw materials with economical prices and suitable solutions for every problem are taking the world towards an irreversible pollution.



PARADOKS = DESTROYING ECOLOGY FOR AN SUSTAINABLE ECONOMY

Wild and uncontrolled production + Environmental, unavoidable pollution + Disrupted ecology = The civilization we created poses a threat to itself.



CLIMATE CHANGE The bankruptcy of the development story ...

1b - SOLUTIONS



INSULATION AND BUILDING SOLUTIONS
IN HARMONY WITH NATURE REQUIRED

An old but renewed
perspective.



PEOPLE WERE NOT SMARTER THAN US
IN OLD TIME. BUT MAYBE THE SOLUTION
IS HIDDEN IN THE PAST OF HUMANITY

Solution: Clay + Natural
posolans.



WE ARE VERY CREATIVE BUT VERY SMART
WE CANNOT BE TALKED THAT WE ARE

Are the solutions we found
rational ..? Not enough ...
The result: a total environmental
disaster.



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1b - SOLUTIONS



THE RIGHT TIP FOR THE SOLUTION

A material without a pollution story for tens of thousands of years: CLAY.



A NEW PERSPECTIVE TO INNOVATION

A brand new solution suitable for human and nature: CLAY + POSOLAN.



RESULT: A COMPLETE SUCCESS

Ancient people may be right to prefer clay and natural poisons.

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1c - ECOLOGICAL BUILDING MATERIALS IN THE MARKET



RESTRICTED PRODUCT DIVERSITY

The variety of ecological building materials on the market is far from meeting the requirements of the market.



SALES PRICES ARE VERY HIGH

Meeting the "ecological product" criteria brings high costs.



INSUFFICIENT PHYSICAL PROPERTIES

Products that are described as ecological in the real sense are not resistant to water, climatic conditions, and are insufficient in terms of physical performance.

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NEGATIVE ASPECTS OF ECOLOGICAL BUILDING MATERIALS IN THE MARKET (Clay plates, clay plasters, clay-based materials)

- 1 - Hypersensitivity to moisture and water, sludge in contact with water and moisture.
- 2 - It requires expensive applications to improve this feature,
- 3 - Inability to obtain the desired hardness, bending, breaking values under pressure,
- 4 - Using excessive thickness and material to obtain physical strength and insulation,
- 5 - Mandatory use of synthetic polymers to increase durability,
- 6 - Labor and implementation are expensive and difficult. It requires expertise.

1d - MARKET EXPECTATIONS



PRODUCT VARIETY TO MEET ALL THE REQUIREMENTS

The market has to respond to increasing and extraordinarily diverse demands. Therefore, the environmental damage caused by products that meet these demands are ignored.



ECONOMIC PRICE, EASE OF APPLICATION AND SUPPLY

The market strictly observes the balance of price, quality, application and ease of supply in all products.



COMPLIANT WITH STANDARDS PHYSICAL PROPERTIES

The market must comply with a number of standards in the products offered to the consumer. It determines its preferences according to these standards.

Ecological building materials on the market cannot meet these expectations of the market for now.



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2 - GREENG INNOVATION SOLUTIONS

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2a - MATERIALS WE DEVELOPED

**(All materials in the presentation are at the TRL7 stage
and have been pre-produced)**

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SOLUTIONS BY THE MATERIAL WE DEVELOPED
(Clay plates, clay plasters, clay-based materials)

- 1 - Absolutely not affected by humidity, water and climatic conditions,**
- 2 - It is available all over the world, It is a sustainable, economical and capable raw material.**
- 3 - It provides both strength and excellent insulation with its non-porous and porous form.**
- 4 - It also does not require expensive post-application processes, it is easy to work with.**
- 5 - Can be produced in desired physical properties, i**
- 6 - It is not necessary to use excessive thickness, excess material to obtain physical strength,**
- 7 - Synthetic polymers and chemicals are not necessarily used to increase its strength.**

MATERIAL WE DEVELOPED Clay + Natural Pusolan

ORIGIN AND HAS TWO FORMS

"All our Ecological building materials are different forms of these two materials"

GreCer

Nonporous Clay + Natural Pozzolan

100% ecological Clay + Natural pozzolana originated non-porous, very hard, resistant to all kinds of natural conditions, water resistant, A1 class fireproof, environmentally friendly building material with 1600 - 2000 kg / M3 density developed as a result of our R & D studies.

PRODUCTS

Plates - Clay plaster - Decorative Wall Covering Materials - Straw, pike, marsh reed.
Combination with natural materials such as bamboo.

GrePor

Porous Clay + Natural Pozzolan

100% ecological, porous, resistant to all kinds of natural conditions, A1 class fireproof, clay + natural pozzolan origin, super isolation capability, 120 - 300 kg / M3 density, 0.040 - 0.050 W / mK insulation coefficient developed as a result of our R&D studies. material.

PRODUCTS

The surface is GreCer and very hard, the back layer is GrePor Decorative Insulation Plates, Foam-form wall laying and repair mortar without thermal bridges. Straw, swamp reed. Combination of natural materials such as bamboo etc.

THE MAIN FEATURE THAT MAKES OUR MATERIAL "SPECIAL AND UNRIVALED IN THE FIELD"

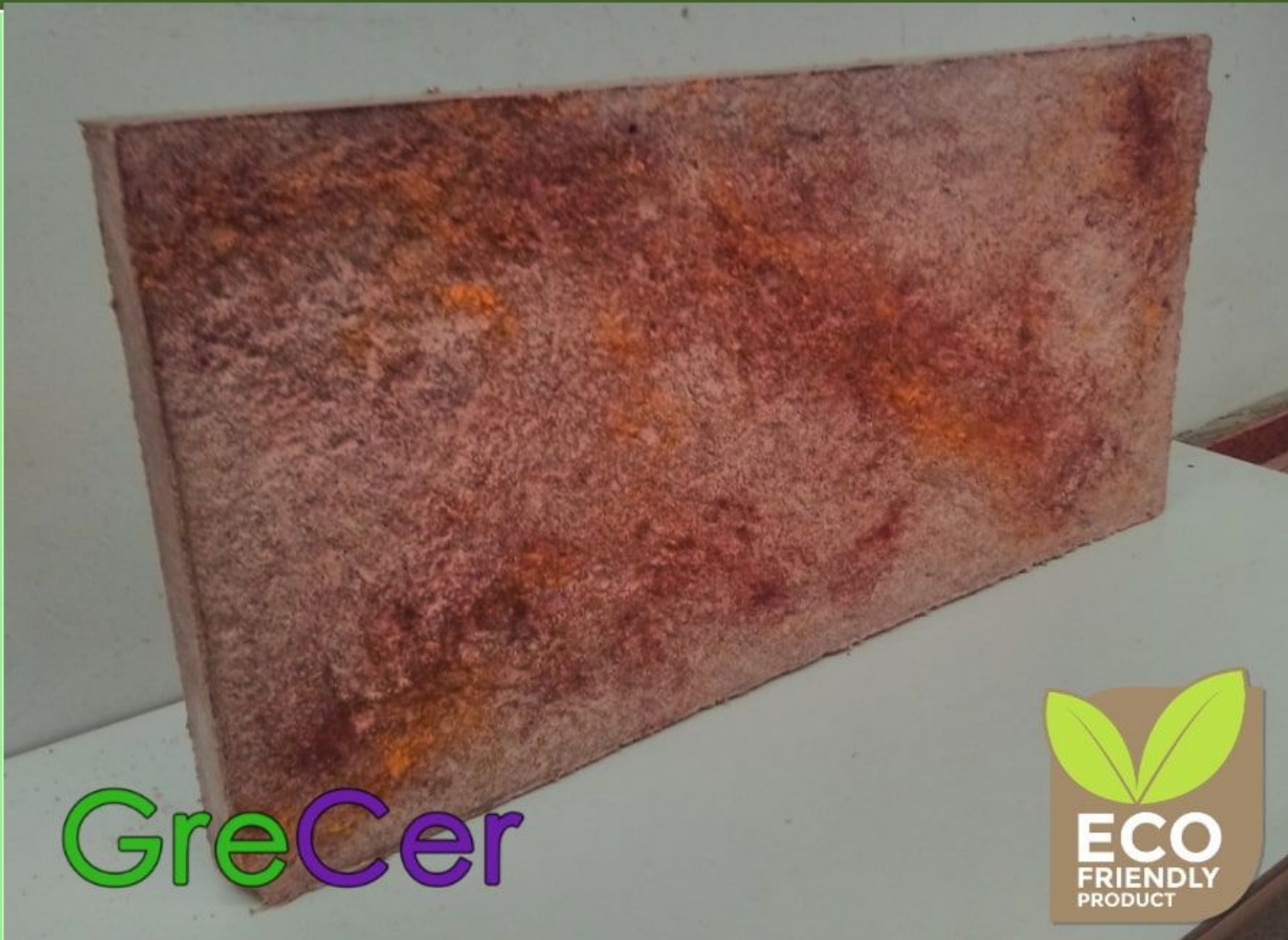
Since both materials (GreCer and GrePor) have the same origins, they can be applied in layers in the same process. In other words, a single product with excellent properties can be obtained by applying an extremely hard surface of the desired thickness and a second layer of the desired thickness with an extremely light, excellent heat and sound insulation ability.

Since both materials come from the same origin, they are molecularly and chemically linked and show the properties of a single layer. They do not tend to be separated from each other by time, climatic conditions, mechanical and chemical effects and have an infinite life.



CLAY WALL PANELS AND CLAY WALL COATING MATERIALS THAT DO NOT REQUIRE PLASTER, PAINT, COATING, AND NOT AFFECTED BY WATER AND ALL NATURE CONDITIONS

It is not affected by water, it is 100% ecological. Its contents consist of completely natural materials such as natural clay, ground brick and tile waste, pike, reed, straw, marsh reed, sawdust, wood fibers and natural pozzolan, depending on the type and characteristics of the product. The surfaces are like stone, marble, brick and designed artistic design. In addition, it does not require workmanship and applications such as plaster, paint, coating. In the forms of non-porous insulation plates made of only our GreCer material, where our GreCer and GrePor materials are used together.



GreCer



GreCer DECORATIVE MODULAR WALL COATING MATERIALS



Wall covering materials produced from our GreCer material are produced using 0 heat, that is without firing. In addition to its elegance and endless design feature, the carbon footprint it leaves on the nature is almost 0.

The superior properties of our material have enabled modular wall covering materials to be made from clay for the first time. It is not possible to capture the resulting wonderful decorative images with other materials.

STABLE AND HIGH ADERANCE CLAY BASED, 100% ECOLOGICAL WALL KNITTING, INSULATION FILLING - REPAIR FOAM WITHOUT A HEAT BRIDGE

GreFoam is an improved version of our GrePor product. It is a specially developed product to knit insulated wall blocks that do not lose their volume with mechanical effect, install insulated wall panels, repair insulation layers and fill between insulation layers. Our product, which is the first in its category, has permanently solved an important problem that cannot be solved in insulation applications with its unique features.



GreFoam

CLAY PLASTER NOT AFFECTED BY WATER, MOISTURE AND OTHER NATURAL CONDITIONS

GrePlast



Clay plaster produced with GreCer is endless against water, moisture and all natural conditions. He breathes. In this way, you can create the ideal and healthiest moisture balance with our products. It is 100% ecological. Its content consists of completely natural materials such as natural clay, ground brick and tile waste, straw, glass fiber and natural pozzolan in some special products, depending on the type and feature of the product. Application thickness varies between 4 - 6 mm and one layer application is often sufficient.

100% ECOLOGICAL CONSTRUCTION MATERIALS PRODUCED BY USING GreCer, GrePor AND, REED, STROKE STRAW, WOOD FIBERS AND NATURAL POSOLANS

Its main features include extraordinary easy application, very high noise, heat insulation values and non-flammability. Thanks to these features, all the negative features of natural and sustainable construction materials have been eliminated and forgotten, abandoned natural resources have been brought back to the economy. With these features, products made of our materials will create a brand new alternative in the market of ecological building materials and classical construction materials in a very short time.



THE FUTURE OF ECOLOGICAL BUILDING MATERIALS MARKET ...



GreCer + GrePor

Clay + Natural posolans + floating porous and very solid + back of the surface is porous and has excellent insulation properties + economic + sustainable + does not pose a threat to the environment =

ECOLOGICAL CONSTRUCTION

MATERIALS WE DEVELOP



THE IMPORTANCE OF OUR MATERIAL FOR THE ENVIRONMENT

The industrial revolution, the rise in the standard of living, the rapid increase in life expectancy and the geometric growing population brought together vital demands and caused an unavoidable consumption and environmental pollution. The market has unfortunately ignored the environment and used unsustainable methods to respond to the demands of this population. Result: The environmental disasters we live in, climate change and unsustainable consumption rupture It is not too late yet... We are on the edge of the abyss, but with conscious planning and determination we can return from this point. Turning towards sustainable solutions that needs to be done ... The material we have developed is one of the solution stakeholders in the solution of this deadly problem, which we are faced with, with almost 0 carbon footprint, does not contain toxic components, is sustainable and environmentally friendly, and can respond to the needs of large masses in total.

TECHNICAL FEATURES OF THE MATERIALS WE DEVELOP

NON-COMBUSTIBILITY: A1 Fireproof

HEAT TRANSMISSION COEFFICIENT:

It varies between 0.030 and 0.130 W / mK depending on the desired hardness and density.

DENSITY:

M3 per unit weight in terms of the load it brings to the building: It changes between 100 kg / M3 and 1800 kg / M3 depending on the desired hardness and density.

HUMIDITY AND AIR PERMEABILITY

The permeability can be adjusted from 0 impermeability to the desired permeability during production and in accordance with the purpose to be used.

PRESSURE RESISTANCE:

Depending on the desired hardness and density; It varies between 25 kgf / cm² and 60kgf / cm².





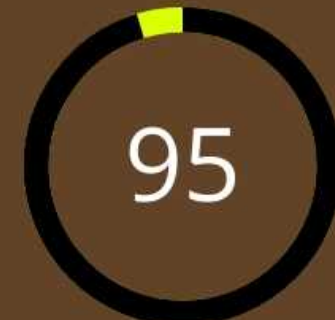
3 - GLOBAL MARKET FIGURES



World annual BUILDING MATERIALS market size is around US \$ 6.0 Trillion



World annual ECOLOGICAL BUILDING MATERIALS MARKET is around US \$ 300 Billion.



The market for building materials that do not comply with the ecological criteria is around 5.7 Trillion US dollars.

It is inevitable that the "ECOLOGICAL" building material sector, which has only 5% of the world building materials market, will grow rapidly in a very short time with the tendency of climate change to turn into a disaster ...



“ECOLOGICAL” building materials provide buildings with enhanced efficiency and sustainability in terms of design, construction, maintenance and renovation. It does not harm the environment due to its standards, and its carbon footprint is very low. As a result; It is a mandatory choice to "PREVENT GLOBAL DISASTER WHICH WILL CAUSE CLIMATE CHANGE" ..

3a - Countries where demand is concentrated in the world

The "demand for ecological building materials" is unfortunately an indicator of development. The countries that make up this demand are countries that have made environmental legal regulations and have high income levels. The most important of these countries are developed countries such as America, European Union and European countries, Japan and Australia. The economic priorities of developing and undeveloped countries prevent the formation of demand in this regard. Therefore, it is of great importance to evaluate this problem globally for the future of the world.



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3b - Market prospects for the near future

Increasing awareness of the adverse effects of traditionally used building materials has prompted governments to take steps on various environmentally friendly and energy efficient building standards. These standards helped improve the overall performance of buildings by setting minimum criteria for energy efficiency and other parameters, thus increasing the demand for green building materials. It is predicted that the market will grow by 10% until 2025. However, as climate change poses a global risk, governments, environmental organizations, non-governmental organizations and international organizations rapidly take new standards and measures, so we anticipate that this ratio will rise much higher, compulsorily and very quickly.



OF THE PRODUCT GROUPS WE DEVELOPED ADVANTAGES IN THE MARKET

IN ADDITION TO THIS PRESENTATION:

-  1 - Surface appearance can be given in all kinds of colors and textures such as stone, marble, geometric patterns, designed surfaces.
-  2 - Does not require plaster, paint or coating. If desired, the colors can be made much more vivid with a simple and natural application.
-  3 - The front surface can be produced as hard and non-porous, and the back s is porous. Buildings where these plates are applied do not require heat, sound, insulation.
-  4 - Any kind of construction, carrier, pipe, etc. can be placed in it during production.
-  5 - It can be easily screwed on the wall and construction. the screw holes can be simply matched to the tissue.,
-  6 - Stone, marble or designed surfaces can be produced in the form of large and modular panels as an alternative to Polyester decoration panels with a thickness of 5-6 mm.



The materials and products we have developed are in TRL 7 stage. For the TRL 8 and TRL 9 phases, we need official, semi-official scientific institutions, the support of environmental organizations to explain their importance, and promotional support for the products to be easily accepted in the market.

We are looking for Universities, Research Institutes, Non-Governmental Organizations, Environment and research foundations, funds and companies with strong infrastructure that will carry the project to the market.

For more information, you can visit our website www.greenginovation.com.

Or you can contact us at blntgrkn@mail.com.

