DIASEN®
IMPROVE YOUR BUILDING

THE CORK BASED
SPRAYABLE
THERMAL PLASTER

λ 0,037

DIATHONITE®
THERMACTIVE .037

CORK

Ecological natural raw material , renewable. Cork is the Diathonite's heart and has incredible performance such as:

- **Breathability**
- **Thermal and acoustic insulation**
- **Elasticity**
- **Long lasting**

PUMICE

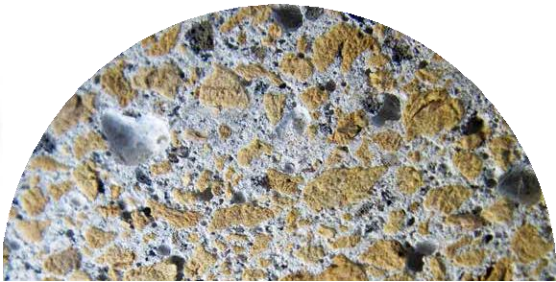
100% recyclable raw material from volcanic rocks. Strength and lightness .

- **Mechanical resistance**
- **Hygroscopic property**
- **High porosity**
- **Long thermal performace**

NHL 5

A natural hydraulic binder with high breathability; it is an excellent thermal insulator and highly resistant to thermal shocks, with excellent adhesion to substrates.

- **Antibacterial properties**
- **High breathability**
- **Hard resistance to moisture**
- **High mechanical resistance**



NATURAL FIBERS

Fibers are easily dispersed in the matrix, creating a homogeneous material that counteracts shrinkage and the formation of micro-cracks, consequently increasing its resistance and do not release toxic residues.

- **Long durability**
- **Recyclable**
- **No toxic waste**
- **Elasticity**

AMORPHOUS EXPANDED SILICATE

Highly technological raw material made on ultra light expanded spheres. Completely inorganic inert with an excellent fire resistance (A1 class).

- **High thermal properties**
- **Long lasting**
- **High porosity**
- **Green and eco-friendly**

PERLITE

Inorganic raw material formed by volcanic glass. It occurs naturally and has the unusual property of greatly expanding when heated sufficiently.

- **Light product**
- **Thermal insulation**
- **Fireproof**
- **Antibacterial**

DIATOMACEOUS EARTH

This is a naturally occurring mineral, formed through the accumulation of organic material (cuttlefish bones, vegetables etc.) in the ocean floor during pre-historic times.

- **High porosity**
- **Absorption activity**
- **Light**
- **Ecological and recyclable**

TECHNICAL DATA

Fire reaction
A1 Euroclass

Diathonite ThermActive is classified according to the UNI EN ISO 13501-1 to Class A1 . No flames and smoke emission.

Thermal Conductivity
λ = 0,037 W/mK

Thanks to the mix of ecological raw materials, ThermActive contributes to thermal insulation.

Porosity 71%

Macroporous structure with high air content which ensures excellent performance in terms of insulation and moisture absorption.

Breathablitity μ = 3

ThermActive leaves walls free to breathe, balances room humidity, prevents mould and condensation from developing, contributes to healthy living.

Density
ρ = 250 ± 15% kg/m³

Walls free to breath thanks to high permeability, moisture Inside is perfectly controlled. No mould and condensation phenomenon.

Thermal Diffusivity
α: 0,1 m²/Ms

A low thermal diffusivity value indicate an excellent insulation against cold and heat. Keeps walls warm in winter and cool in summer.

Mechanical Strength
2,8 N/mm²

High compression resistance. It can be used both indoor and outdoor, and gives walls strength and resistance.

NEW BUILDING

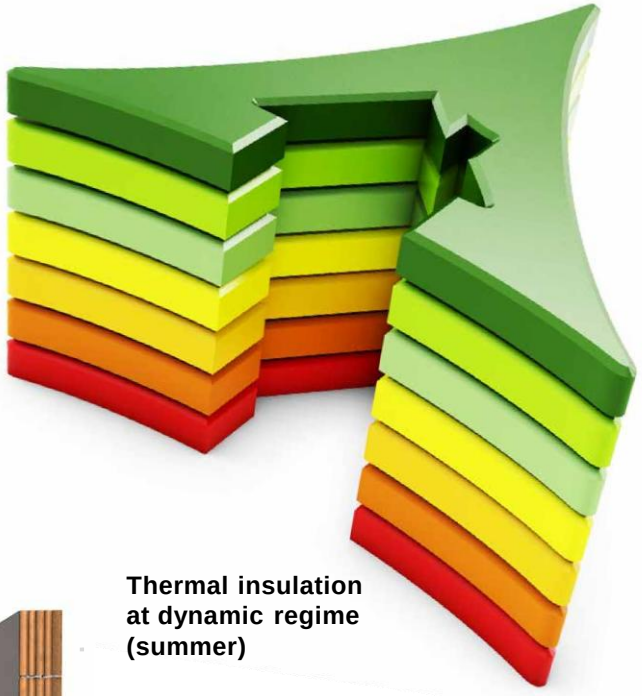
EXTERNAL FACADE

INTERNAL FACADE

RENOVATIONS

ACTIVE
λ 0,037

ANTIBACTERIAL
HIGH THERMAL INSULATION
HYGROMETRIC COMFORT
INSULATION FROM HEAT AND COOL
BREATHABLE
NO MOULD AND CONDENSATION
FIRE RESISTANCE



Thermal insulation at stationary regime (winter)

Thermal insulation at dynamic regime (summer)

Final Performances	Diathonite ThermActive .037
Specifi Weight kg/m3	250
Thermal Insulation W/mK	0,037
Yield kg/m2	2,6 +/- 10%
Water Vapor Permeability μ	3
Dry Mortar Porosity	71%
Total Pore Volume	1372 mm3/g
Compressive Strength *UNI ENI ISO 1015-11*	CS II – 2,8 N/mm2
Secant Elasticity Modulus *UNI EN 1015-11*	1 N/mm2
Fire Resistance	Euroclass A1

Equipment:
Concrete mixer and trowel

APPLICATION

Equipment:
Lung plastering pump

HAND APPLICATION

Diathonite ThermActive .037 is a pre-mixed product, and hand application does not differ from conventional pre-mixed plaster.
After mixing the material with water in a cement mixer or by using a mixer drill, the product is applied with a trowel directly onto the substrate.

SPRAY APPLICATION

ThermActive .037 can also be applied by using a plastering pump for pre-mixed materials.
Spray application can be used for large surfaces, much faster than manual application.

LEED® - Leadership in Energy and Environmental Design

Diathonite ThermActive .037 is an eco-friendly product, because it is formulated with non dangerous material for the environment and safe for human health, both during application and after its complete curing. For this reason, it contributes to obtain **LEED** credits according to **Green Building Council** certification protocols.

LEED Standard for Italy for new construction and renovation, LEED for Schools, LEED for Core & Shell, v. 2009

Thematic area	Credit	Points
Energy & Atmosphere	EAp2 - Minimum Energy Performance	Compulsory
	EAc1 - Optimize Energy Performance	From 1 to 19
Materials & Resources	MRc2 - Construction Waste Management	From 1 to 2
	MRc4 - Recycled Content	From 1 to 2
	MRc5 -Regional materials	From 1 to 2
	MRc6 - Rapidly Renewable materials	1
Indoor Environmental Quality	QIc3.2 - Construction Indoor IAQ Plan Before Occupancy	1
	QIc4.2 - Low Emitting Materials - Paints and Coatings	1

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