



TECNO  
**CANAPA**  
NATURAL BUILDING



# PRODUCT CATALOGUE



NEW  
CONSTRUCTION



ENERGY EFFICIENCY  
AND RENOVATION



RENDERS  
AND FINISHES



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# TECNO CANAPA SENINI



## Eco-sustainable

healthy, beautiful, on a human scale

### TECNOCANAPA

A choice that keeps up with the times, coherent with the strategy of the company that for many years, has been engaged in the production of innovative and eco-sustainable materials.

*The houses of the future will increasingly be built with natural materials: a fast-growing trend that contributes to preserve the environment and ensure a better quality of life for everyone. Attention and sensitivity that have always been part of us; that is why we want to offer a product with enormous potential, with an important and credible past, rediscovered, innovated and intended to become the protagonist of new buildings "*

Massimo Senini



## BUILD DIFFERENTLY

Tecnocanapa is a complete range of solutions for the building envelope consisting of natural and sustainable materials that provide high level of energy efficiency and healthiness. These innovative materials fully meet the requirements of sustainable development: minimising the environmental impact during the production phase of the building material, during its implementation and for the entire lifetime of the building.

### TECHNICAL PERFORMANCE AND ENVIRONMENTAL SUSTAINABILITY



# BUILD THE FUTURE

## HEMP & LIME

Building materials of the Third Millennium



Industrial production

Natural resources



Scientific research



The new range of products in hemp and lime represent the future of the building industry because these materials are natural, sustainable and energy efficient. Our company owns the largest manufacturing plant of Italy entirely dedicated to the production of hemp and lime biocomposites. The industrial approach allows us to ensure quality and competitiveness keeping up with the pace of the increasingly pressing challenges of the construction sector.

### THE USE OF HEMP FOR CONSTRUCTIONS IS REALLY ANCIENT.

A recent study carried out in India at Babasaheb Ambedkar Marathwada University showed that a mixture of hemp, lime and clay used as a coating inside the Ellora caves in Aurangabad (Unesco world heritage site) allowed to maintain stable conditions of humidity in order to protect paintings for over 1500 years.

Its long-lasting characteristics were already known 1500 years ago. It has been confirmed by the discovery of many examples of centenary works. Amongst others, a bridge built 1500 years ago with a conglomerate of hemp and lime has been found by archaeologists in the south of France.



### LIME IS A TRADITIONAL MATERIAL, PROTAGONIST OF THE EVOLUTION OF CONSTRUCTION AND ARCHITECTURE.

The oldest known artifact made with lime dates back to 7000 BC. Lime is obtained by heating limestone, a rock that is abundantly found in nature. Natural lime has a very long life cycle and can be considered as the building binder of the third millennium due to its intrinsic characteristics of breathability, healthiness and resistance for buildings. The use of the composite by peoples and civilisations throughout history is proof of the constructive value of lime and hemp, supported today by the scientific recognition of universities and research centers in Italy, France, United States, Canada, Germany and England.



# HEMP & LIME

The mixture of hemp, water and lime creates an ideal product for use in natural building.

The high silica content of hemp shiv - the woody part of the plant - combined to the magnesium of the natural lime, activates the carbonation of the material and the hardening of the fibres. Once the composite is dried, it becomes rigid, very resistant and durable while being light and elastic.



European Patent  
EP3121156B1



HEMP SHIV  
the woody part of the hemp plant

+



WATER

+



PROBIOTICS

+



LIME  
Natural binder



THE EVAPORATION OF WATER CAUSES A CHANGE OF STATE.  
The lime mineralises  
the vegetable component of the hemp shiv.

## » MINERAL

The composite consolidates within a few hours and this petrification process keep going until it acquires a consistency similar to stone.



## » APPLICATIONS

The blocks of hemp and lime, combined with a load-bearing structure in wood, steel or reinforced concrete, can be used for different structural and thermal purposes whether for private, commercial or industrial construction.

The perimeter wall made of hemp and lime does not require cladding panels, insulating panels or vapour barriers.

## » IT IS USED FOR:

- Building up new perimeter walls
- Carrying out lightened and insulated bio-slabs
- Recovery building: renovations and restorations
- Interventions of thermal insulation for existing buildings

**SIMPLE** materials, employed for **CENTURIES**, combined to the **TECHNOLOGY** for

# GREEN BUILDING



## 1 ECO-FRIENDLY THE ENVIRONMENT IS GRATEFUL

The hemp and lime mixture correspond to a high standard of environmental sustainability. Hemp has a very fast life cycle, it's an extremely resistant plant, needs little water, grows without fertilizers, pesticides and herbicides. Furthermore, it enhances the soil by assimilating pollutants and has a great ability to absorb carbon dioxide by releasing oxygen. In fact, the hemp plant absorbs **4 times more CO<sup>2</sup> than other plants**. Lime is a natural material obtained by crushing limestone, a mineral that is found abundantly throughout the Italian territory.

## 2 DURABILITY TIMEPROOF BUILDINGS

Hemp-and-lime buildings are not affected by oxidation or external agents and can last almost forever. The Ellora Caves, built in India in 600AD are the best example of the preservation capacity of the hemp-and-lime mix since it has protected and preserved for centuries, the precious paintings of the archaeological site that is now part of the UNESCO World Heritage.

## 3 MECHANICAL RESISTANCE LIGHTNESS IS ITS STRENGTH

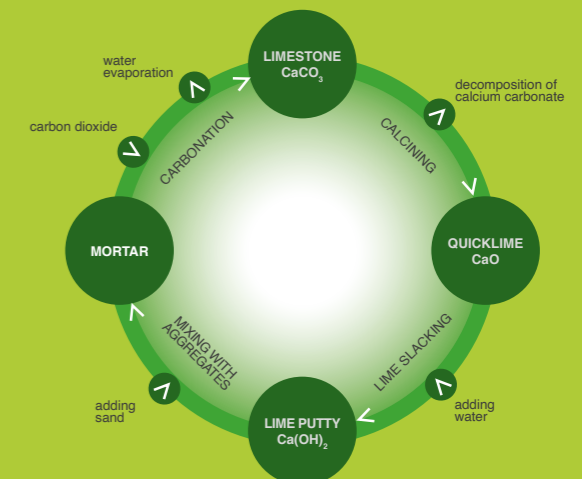
Buildings made of hemp fibre materials are **very resistant to dynamic stresses** because they are able to absorb vibrations. They are definitely suitable for use in seismic areas.

## 4 RECYCLING ENDLESS LIFETIME

At the end of its lifetime, the biocomposite of hemp and lime is **totally biodegradable** and reusable in accordance with the current practices of environmental protection, sustainability and energy saving

## 5 CARBON NEGATIVE THE FIRST BUILDING MATERIAL WITH A NEGATIVE CARBON FOOTPRINT

The complete production cycle of the hemp and lime block results in low CO<sub>2</sub> emissions. According to a Life Cycle Assessment made by the Politecnico di Milano, once laid out, each cubic meter of this material will have **captured up to 100kg more CO<sup>2</sup> than the total gas emissions** during its production, transport and installation on site.



# THE HOUSE THAT BREATHES

## 6 LIVING COMFORT CONSTANT LEVELS OF TEMPERATURE AND HUMIDITY

Thanks to the hygroscopic capacity of hemp and the vapour permeability of lime, the biocomposite is able to absorb and **regulate the level of humidity** inside the buildings. This prevents the formation of dew points, the proliferation of microorganisms, condensation, mould and the internal deterioration of the material. The purified air provides a pleasant and healthy living atmosphere. It also has good soundproofing characteristics which improve the acoustics inside the rooms.

## 7 THERMAL INSULATION OVER THE STANDARD

Hemp is an excellent natural insulator which is able to control sudden changes of temperature. It has an **excellent insulation capability** during winter and protects from heat in summer. The biocomposite cancels thermal bridges and increases the airtightness of the building.

## 8 FIREPROOF AND PROTECTION FROM INFESTATIONS

Once mineralised by lime, the hemp shiv becomes fireproof and protects the walls from insects and rodents. Lime has always been used to **maintain hygiene and avoid infestations**.

## 9 ENERGY SAVING FOR NEW AND EXISTING BUILDINGS

The remarkable thermal insulation performance reduces the needs for energy. A building built with hemp-and-lime blocks guarantees **energy savings that can reach up to 90-100%** if compared to another one that was built with traditional systems.

## 10 ECO-FRIENDLY AESTHETICS

The versatility of the biocomposites of hemp and lime allows you to customise each intervention and satisfy the insulation objectives **without compromising the aesthetic aspects thanks to hemp-based renders that are pleasing to the eye and to the touch**.



# NEW CONSTRUCTION

Solutions designed for the construction of buildings with load-bearing structures of any types: reinforced concrete, wood and steel. Reactive mix materials that improve thermal, acoustic and hygrometric performance. Healthiness and environmental sustainability for your living space.



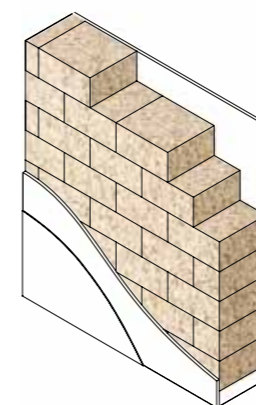
## PERIMETER WALLS AND PARTITIONS



### BLOCCO AMBIENTE®

**Blocco Ambiente®** is a unique material that combines properties of insulation and thermal mass. It is composed of **Canapulo Grosso** (hemp shiv 0-25 certified CenC), **Legante Dolomitico Naturale** (hydrated dolomitic lime) and **Additivo Probiotico** (probiotics). It has all the characteristics required of a building material in line with sustainable development: high insulation capacity, low embodied energy and the ability to absorb CO<sub>2</sub> from the atmosphere. It can be used for the building envelope, ensuring its efficiency, or as an internal partition, contributing to the hygrothermal balance and therefore to the comfort of the living space.

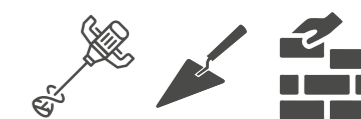
### ASSEMBLY



### FEATURES



### LAYING METHOD



### APPLICATIONS



### MALTA DI ALLETTAMENTO PRONTA (BEDDING MORTAR -Ready to use)

**Malta di Allettamento** is a natural and highly breathable bedding mortar composed of **Canapulo Grosso** (Hemp Shiv 0-25) and **Legante Dolomitico Naturale** (Natural Dolomitic Binder). The absence of hydraulic binders and mineral aggregates, and the high cellulose component, make it the ideal solution for the implementation of **Blocco Ambiente®**. The mortar eliminates the thermal bridges at the joints which allows to obtain a monolithic wall of hemp and lime.



### MALTA DI ALLETTAMENTO MIX (BEDDING MORTAR -To be mixed)

As an alternative to the mortar ready to use, the same mortar can be produced on site by mixing its components: Canapulo Grosso and Legante Dolomitico Naturale





# ROOFS AND SUBFLOORS



## BIO BETON®

**Bio Beton®** is a low-density biocomposite of hemp and lime that combines properties of insulation and thermal mass. It is composed of **Canapulo Grosso** (hemp shiv 0-25 certified CenC), **Legante Dolomitico Naturale** (hydrated dolomitic lime) e **Additivo Probiotico** (Probiotic additives). Ideal for the insulation of floors or slabs, roofs, attics, subfloors and cavity walls. The product is available in two solutions: premixed and ready to use, or bulk to be mixed on site.

### FEATURES



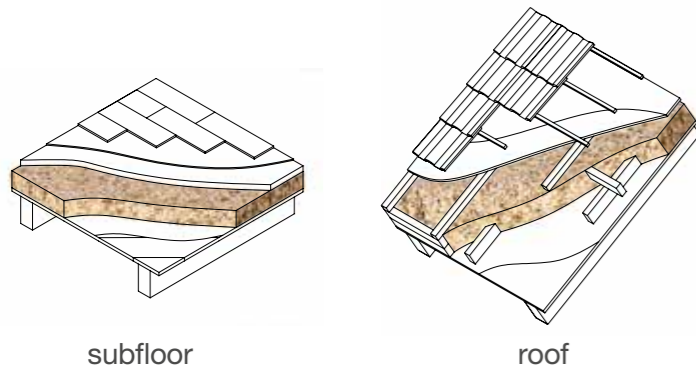
### LAYING METHOD



### APPLICATIONS



### ASSEMBLY



### BIO BETON® PRONTO



### BIO BETON® MIX



# ATTICS, DROPPED CEILINGS, AND ROOFS

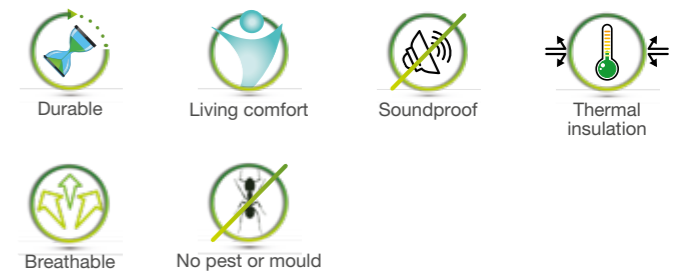


## CANAFIBER

**Canafiber** is the natural alternative to insulating materials from mineral and synthetic origin. It is compatible with any type of structure and it is the ideal product for thermo-acoustic insulation of roofs, walls and floor slabs for both new buildings and renovations.

The unique qualities of **Canafiber** are enhanced when used in combination with breathable materials such as **Blocco Ambiente®** of hemp and lime.

### FEATURES



### LAYING METHOD



### APPLICATIONS



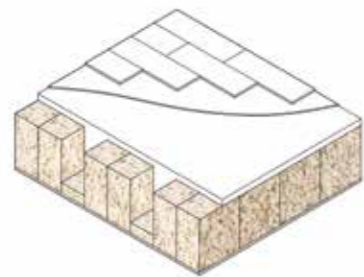
### ASSEMBLY



# FLOOR SLABS



## ASSEMBLY



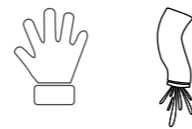
## BIO SOLAIO®

**Bio Solaio®** is the innovative application of **Blocco Ambiente®** (hemp block), as an alternative to the common slabs made with hollow bricks. The implementation of **Bio Solaio®** is fast, competitive and effective. The laying of the hemp blocks followed by a reinforcement and a casting of concrete, creates a lightened structural slab that insulates thermally and acoustically. **Bio Solaio®** allows you to complete the building envelope of new buildings in order to obtain a natural protection at 360 ° with all the benefits of the biocomposites of hemp and lime, in terms of energy efficiency, living comfort and healthiness.

## FEATURES

 Durable	 Carbon negative	 Living comfort	 Soundproof
 Thermal insulation	 Fireproof	 Decrement delay	 No pest or mould

## LAYING METHOD



## APPLICATIONS





# ENERGY EFFICIENCY AND RENOVATION

Solutions that are compatible with all types of load-bearing structures: reinforced concrete, wood or steel. Bio-materials that ensure high performing features in terms of thermal, acoustic and hygrometric regulation. Wellness and environmental sustainability for your living space.



COUNTER WALLS



ATTICS



ROOFS



DROPPED CEILINGS



SUBFLOORS



THERMAL RENDERS



## COUNTER WALLS

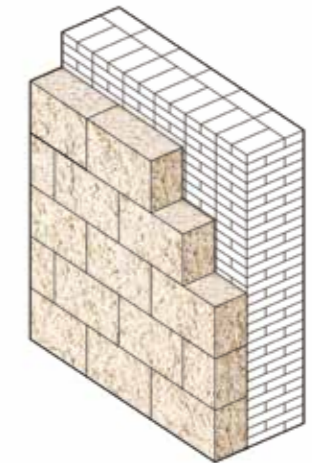


### BLOCCO AMBIENTE®

Il **Blocco Ambiente®** is used as an internal or external insulating wall, aiming to upgrade the energy efficiency of the building. The insulating counter wall is anchored to the existing support by doweling or nailing L-shaped brackets.



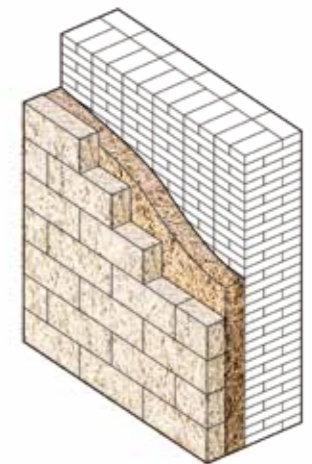
ASSEMBLY



### BLOCCO AMBIENTE® + BIO BETON®

The creation of a cavity filled with granular material, such as **Bio Beton®**, is particularly suitable in cases where the existing support presents geometric irregularities. The final surface is uniform and the cavity is insulated homogeneously.

ASSEMBLY



## COUNTER WALLS



### BLOCCO AMBIENTE® + CANAFIBER

The combination of a counter wall of **Blocco Ambiente®** with an insulating cavity of hemp fibre panels, allows to reduce the thickness of the counter wall, without compromising the insulating capacity.

#### ASSEMBLY



### GYPNUM FIBREBOARD/DRYWALL PANEL + CANAFIBER OR BIO BETON®

The formation of an insulating cavity wall using hemp fibre panels and gypsum fibreboards, is perfect for indoor environments that need to be insulated thermally and acoustically. This solution offers the possibility to reduce thicknesses and contributes to the breathability of the building envelope.

#### ASSEMBLY



## ROOFS AND SUBFLOORS



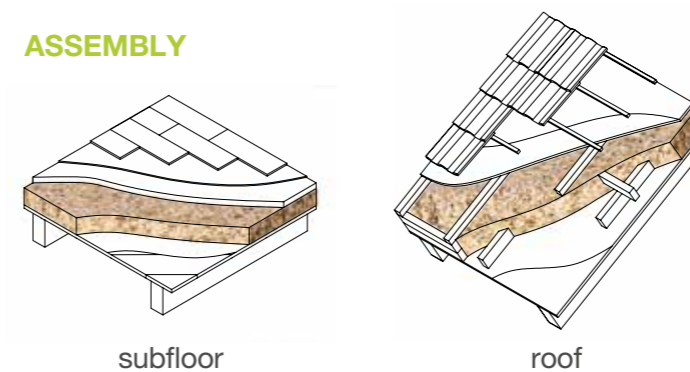
### BIO BETON®

**Bio Beton®** is a low-density biocomposite of hemp and lime that combines properties of insulation and thermal mass. It is composed of **Canapulo Grosso** (hemp shiv 0-25 certified CenC), **Legante Dolomitico Naturale** (hydrated dolomitic lime) and **Additivo Probiotico** (Probiotic additives). Ideal for the insulation of floor slabs, roofs, attics, subfloors and cavity walls. The product is available in in two solutions: premixed and ready to use, or bulk to be mixed on site.

#### FEATURES



#### ASSEMBLY



#### LAYING METHOD



#### APPLICATIONS



### BIO BETON® PRONTO

### BIO BETON® MIX



# ATTICS, DROPPED CEILINGS, AND ROOFS



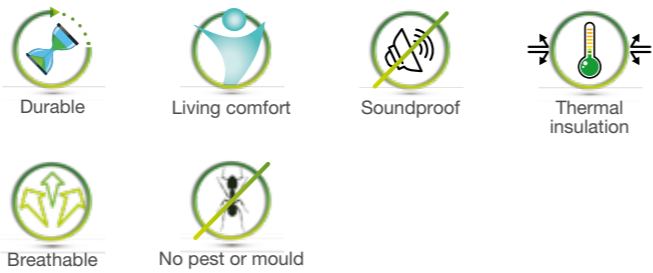
## CANAFIBER

**Canafiber** is the natural alternative to insulating materials from mineral and synthetic origin. It is compatible with any type of structure and it is the ideal product for thermo-acoustic insulation of roofs, walls and floor slabs for both new buildings and renovations.

The unique qualities of Canafiber are enhanced when used in combination with breathable materials such as **Blocco Ambiente**® of hemp and lime.



## FEATURES



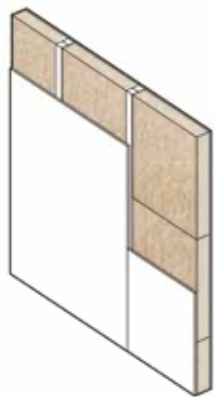
## LAYING METHOD



## APPLICATIONS



## ASSEMBLY



# THERMAL RENDERS

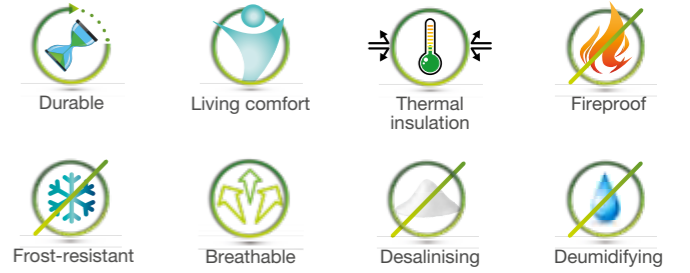


## BIO BETON® 500 VENEZIA

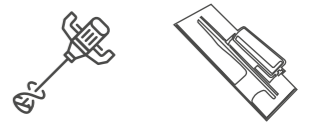
**Bio Beton® 500 Venezia** is a natural and highly breathable thermal render composed solely of **Canapulo Fine** (hemp shiv 0-6 certified CenC), **Legante Dolomitico Naturale** (hydrated dolomitic lime) and **Additivo Probiotico** (Probiotic additive). The total absence of hydraulic binders and mineral aggregates, in addition to the high cellulose component maximises the breathability of the wall and makes **Bio Beton® 500 Venezia** the ideal solution for restoring masonry walls, even in presence of rising damp or efflorescence of salts.



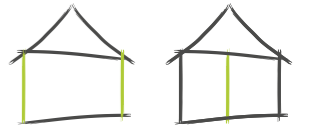
## FEATURES



## LAYING METHOD



## APPLICATIONS



**Bio Beton® 500 Venezia** is ready to use and applied manually after the removal of the existing damaged plaster. **Bio Beton® 500 Venezia** can be left in a raw state, for a rustic and irregular aspect or finished with **Canaposo** or **Canapulino** (textured finish) or **Stabilitura Naturale Traspirante Plus** reinforced on all the surface (smooth, rough or sponge finish).



# RENTERS AND FINISHES

Renders and finishes that are natural and highly breathable to ensure the healthiness of the building envelope and the living spaces. Hempcrete or mineral finishes in various colours for every tactile and visual preference.



## HEMPCRETE RENDER



**Bio Beton® 500 Venezia** is ready to use and applied manually after the removal of the existing damaged plaster. **Bio Beton® 500 Venezia** can be left in a raw state, for a rustic and irregular aspect or finished with **Canaposo** or **Canapulino** (textured finish) or **Stabilitura Naturale Traspirante Plus** reinforced on all the surface (smooth, rough or sponge finish).



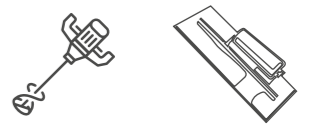
### BIO BETON® 500 VENEZIA BASE RENDER

**Bio Beton® 500 Venezia** is a natural and highly breathable thermal render composed solely of **Canapulo Fine** (hemp shiv 0-6 certified CenC), **Legante Dolomitico Naturale** (hydrated dolomitic lime) and **Additivo Probiotico** (Probiotic additive). When it is applied with a thickness of 3-5cm, it contributes to the hygrothermal capacity of the building envelope. Otherwise, it can be applied with a thickness of 1-2cm where it acts as a base render with high performing features thanks to Hemp Shiv. It can then be finished using a hempcrete finish or a mineral finish. **Bio Beton® 500 Venezia** can be used for both interiors and exteriors.

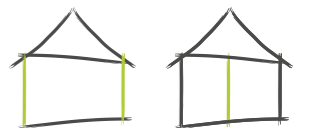
#### FEATURES



#### LAYING METHOD



#### APPLICATIONS





## CANAPOSÒ® HEMPCRETE FINISH - INTERNAL

**Canaposo®** is a finish of lime putty aged 18 months and **Polvere di Canapa 0-1 mm** (hemp powder) with the addition of calcium carbonates (natural colour) or Cocciopesto Powder or Coloured Earth (colour of your choice). Desalinating and dehumidifying thanks to its high hygroscopic capacity, it is an excellent humidity regulator on new and existing walls, guarantees maximum healthiness and significantly improves the comfort of the living spaces.

### FEATURES



### LAYING METHOD



### APPLICATIONS



## CANAPULINO® HEMPCRETE FINISH - INTERNAL / EXTERNAL

**Canapulino®** is a finish of lime putty aged 18 months and **Canapulo Fine 0-6 mm** (hemp shiv) with the addition of Calcium Carbonates (natural colour) or Cocciopesto Powder or Coloured Earth (colour of your choice). Desalinating and dehumidifying thanks to its high hygroscopic capacity, it is an excellent humidity regulator on new and existing walls, guarantees maximum healthiness and significantly improves the comfort of the living spaces.



## MINERAL FINISH CYCLE - EXTERNAL

Mineral base coat from hydraulic lime NHL2, selected siliceous and calcareous aggregates, finished with a reinforced mineral skim coat. The result is a smooth finish that is highly breathable.

### INTONACO DI CALCE NATURALE (Natural Lime Plaster)



### STABILITURA NATURALE TRASPIRANTE PLUS (Natural Skim Coat)



## MINERAL FINISH CYCLE - INTERNAL

Mineral base coat from hydraulic lime NHL2, selected siliceous and calcareous aggregates, finished with a fine mortar of lime putty and sand. The result is a smooth finish that is highly breathable.

### INTONACO DI CALCE NATURALE (Natural Lime Plaster)



### MALTA FINE (Fine Mortar)



# PRODUCT DATA SHEETS



## INSULATING MATERIAL



## DESCRIPTION

**Blocco Ambiente**® is a unique material that combines insulation and thermal mass properties. It is composed of hemp shiv (certified CenC), hydrated dolomitic lime and probiotics.

Respecting the principles of social and environmental sustainability, it has all the characteristics required of a building material in line with sustainable development: high insulating capacity, low embodied energy and the ability to absorb CO2 from the atmosphere.

## CHARACTERISTICS

- Thermal, acoustic and hygrometric comfort;
- **Blocco Ambiente**® is breathable (vapour permeable)
- Resistant to fire, frost, insects and rodents;
- Low embodied energy;
- Recyclable

## APPLICATIONS

- Construction of insulating and breathable masonry walls;
- External wall insulation system for existing buildings;
- Internal wall insulation system for existing buildings;
- Solid floor insulation;
- Internal partitions with acoustic insulation.

## LAYING

- The blocks are laid in a thin bed of mortar composed of hemp and lime according to the proportions indicated in the installation manual.
- A handsaw, reciprocating saw or alligator saw can be used to cut the blocks.
- Internal surfaces and partition walls can be coated with sand and lime mortar, clay, gypsum or other breathable finishes.
- External surfaces can be left exposed or can be coated with breathable finishes.

NB. [height] +/- 1 cm	BA8	BA12	NEW BA20	BA25	BA30	BA36	NEW BA40	NEW BA50
Sizes - Length, Height, Thickness - cm	50x20x8	50x20x12	50x40x20	50x20x25	50x20x30	40x20x36	50x20x40	40x20x50
Density - Kg/m <sup>3</sup> dry	310	310	310	310	310	310	310	310
Conductivity - W/mk LAMBDA λ	0,057	0,057	0,057	0,057	0,057	0,057	0,057	0,057
Transmittance - W/m <sup>2</sup> K U	0,63	0,43	0,27	0,22	0,18	0,15	0,14	0,11
Thermal offset without plaster	2h 35'	4h 57'	9h 54'	12h 59'	16h 02'	19h 43'	22h 10'	28h 18'
Specific heat capacity - J/KgK	1600	1600	1600	1600	1600	1600	1600	1600
Vapour permeability - μ	μ = 4,5	μ = 4,5	μ = 4,5	μ = 4,5	μ = 4,5	μ = 4,5	μ = 4,5	μ = 4,5
Sound absorption coefficient (aw)	1 - CLASS A	1 - CLASS A	1 - CLASS A	1 - CLASS A	1 - CLASS A	1 - CLASS A	1 - CLASS A	1 - CLASS A
Soundproofing index (Rw) - dB							43	
Compressive strength - N/mm <sup>2</sup>	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
Shear traction with rawplug - kN	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067
Orthogonal traction with rawplug - kN	2,734	2,734	2,734	2,734	2,734	2,734	2,734	2,734
Reaction to fire with plaster	B - s1, d0	B - s1, d0	B - s1, d0	B - s1, d0	B - s1, d0	B - s1, d0	B - s1, d0	B - s1, d0
Fire resistance - min		EI60			EI180	EI180	EI180	EI180





## INSULATING MATERIAL



AVAILABLE IN BIG BAG 1 0 2 M<sup>3</sup>

### DESCRIPTION

**Bio Beton**® is a low-density hemp and lime biocomposite that combines properties of insulation and thermal mass. It is composed of hemp shiv (certified CenC) and hydrated dolomitic lime. Respecting the principles of social and environmental sustainability, it has all the characteristics required of a building material in line with sustainable development: high insulating capacity, low embodied energy and the ability to absorb CO<sub>2</sub> from the atmosphere.

### CHARACTERISTICS

- Thermal, acoustic and hygrometric comfort, BioBeton® is breathable (vapour permeable).
- Resistant to fire, frost, insects and rodents.
- Absence of toxic fumes in case of fire.
- Low embodied energy.
- Recyclable.

### APPLICATIONS

- Insulation of roofs, attics and lofts.
- Construction of insulating and breathable masonry walls.
- External wall insulation system for existing buildings.
- Internal wall insulation system for existing buildings.
- Subfloor insulation.

### LAYING

- The product is laid by casting it onto roof, floor screeds, attic, subfloor or into formwork.
- The product is delivered already mixed and ready for use in 2 cubic meter big bags..

Thickness - cm	10	15	20	30	40
Density - Kg/mc <sup>3</sup> dry	175	175	175	175	175
Thermal Conductivity - W/mk LAMBDA λ	0,053	0,053	0,053	0,053	0,053
K Thermal Transmittance - W/mqK U	0,49	0,33	0,25	0,17	0,13
Vapour permeability - μ	2,8 ≤ μ ≤ 3,5	2,8 ≤ μ ≤ 3,5	2,8 ≤ μ ≤ 3,5	2,8 ≤ μ ≤ 3,5	2,8 ≤ μ ≤ 3,5
Specific heat capacity - J/KgK	1480	1480	1480	1480	1480
Compression behaviour (tension al 10%) - kPa	71	71	71	71	71
Thermal offset (according to ISO 13786)	3h 40'	6h 20'	9h	14h 30'	20h
Soundproofing index when placed on a wooden floor (Rw) - dB			40		
Reaction to fire on roof	B <sub>roof</sub> (t2)	B <sub>roof</sub> (t2)	B <sub>roof</sub> (t2)	B <sub>roof</sub> (t2)	B <sub>roof</sub> (t2)

## INSULATING MATERIAL



### DESCRIPTION

**CANAFIBER** is a high quality insulating material made with industrial hemp fibers. A natural and sustainable product with exceptional insulating properties. The unique characteristics of hemp fiber in terms of thermal insulation, humidity regulation and noise reduction contribute in a distinctive way to a healthy and sustainable living environment: the natural comfort.

Thickness - mm	40	60	80	100	120
Density - kg/m3	30	30	30	30	30
Thermal Conductivity - W/mk LAMBDA λ	,04	0,04	0,04	0,04	0,04
Thermal Transmittance - W/m2K U	0,855	0,599	0,461	0,375	0,315
Vapour permeability - μ	1,2	1,2	1,2	1,2	1,2
Airflow resistance - kPa.s/m2	≥ 2,0	≥ 2,0	≥ 2,0	≥ 2,0	≥ 2,0
Specific heat capacity - J/KgK	1700	1700	1700	1700	1700
Reaction to fire - Euroclasse	E	E	E	E	E
Operating temperature	-40°C / +100°C				
Carbon Footprint	0,138 kg CO <sub>2</sub> eq. (GWP) Net of CO <sub>2</sub> sequestered during the cultivation of hemp. Data calculated on 1kg of product. System boundaries : from cradle to grave, phase of use excluded.				

### USE AND APPLICATION

**CANAFIBER** is the ideal product for thermo-acoustic insulation of roofs, walls and floors for both new buildings and renovations. **CANAFIBER** is the natural alternative to insulating materials of mineral and synthetic origin. It is compatible with any type of structure, from traditional concrete systems to more innovative ones such as steel or wood. The unique qualities of **CANAFIBER** are enhanced when used in combination with breathable and vapour permeable solutions such as **Bio Beton**® e **Blocco Ambiente**® of hemp and lime.

Thickness (mm)	Size (mm)	Panels / package	m <sup>2</sup> / package	m <sup>3</sup> / package	Package / Pallet	m <sup>2</sup> / Pallet	m <sup>3</sup> / Pallet
40	1200x600	15	10,8	0,432	8	86,4	3,456
60	1200x600	10	7,2	0,432	8	57,6	3,456
80	1200x600	7	5,04	0,4032	8	40,32	3,2256
100	1200x600	6	4,32	0,432	8	34,56	3,456
120	1200x600	5	3,6	0,432	8	28,8	3,456

### INDUSTRIAL HEMP FIBER

- Unique thermal phase shift thanks to the high capacity to accumulate energy
- Endless life cycle
- It absorbs up to 20% of its weight in water vapour and self-regulates extraction and release
- Free of protein substances and unappetising to insects and rodents
- Energy consumption reduced by 90% compared to alternative synthetic and mineral insulation products
- It sequesters CO<sub>2</sub> during growth and contributes to the fight against climate change
- An excellent example of a circular economy

The annual cycle of industrial hemp fiber makes it a renewable non-toxic resource of high quality. The insulating materials in hemp fiber enjoy very high durability. They represent the ideal solution to create healthy and comfortable living spaces with an environmental impact reduced to a minimum.

### DID YOU KNOW THAT...

- One hectare of agricultural land planted with hemp produces 9 tons of biomass per year which means, four times the production of one hectare of forest
- One hectare of hemp fiber sequester 15 tons of CO<sub>2</sub> every time it is harvested
- The cultivation of industrial hemp doesn't need pesticides and enriches the soil

### WHY CANAFIBER?

**CANAFIBER** is able to absorb noise, regulate humidity, prevent the appearance of condensation and mould and reduce internal temperature fluctuations. The panels are simple and pleasant to use and totally free of dangerous substances that can cause irritation of the skin and respiratory tract.



## INSULATING MATERIAL



AVAILABLE IN BUCKETS OF 20L

### DESCRIPTION

**Malta di Allettamento** is a natural and highly breathable masonry mortar composed solely of thick hemp shiv, natural dolomitic binder and symbiotic microorganisms. The total absence of hydraulic binders and mineral aggregates as well as the high cellulose component maximise the breathability of the masonry and make 'Malta di Allettamento' the ideal solution for laying hemp-and-lime **Blocco Ambiente**® masonry. Highly energy-efficient, it eliminates the thermal bridges within the masonry, guarantees maximum healthiness and this results in a monolithic masonry from hemp and lime.

### USE AND APPLICATION

Ready-to-use product to be applied manually. Spread the mortar in the center of the **Blocco Ambiente**® for at least 2/3 of the surface with a thickness of about 1 cm, necessary to regularise the surface for the next course of masonry. Before proceeding with the laying of the bedding mortar, the **Blocco Ambiente**® must be wet by nebulising with clean water. Once the wall is finished, the mortar joints between the bricks can be filled and tooled. Tooling the joints allows to completely eliminate the thermal bridges generated by the bedding mortar and offers a perfect uniformity of material on which the plaster will be applied. It is possible to proceed with the realisation of the cladding for a height up to about 3m without any problem. For higher heights and low thicknesses of the **Blocco Ambiente**®, it is advisable to proceed with the laying of about 1.5-2m in height, wait for the bedding mortar to "set" and then continue.

Density - Kg/m <sup>3</sup> dry	500
Thermal Conductivity - W/mK	0,12
Vapour permeability - μ	2,7
Specific heat capacity - J/kgK	1330
Bending strength - N/mm <sup>2</sup>	0,8
Compressive strength - N/mm <sup>2</sup>	1,4
Adhesive strength to the substrate - N/mm <sup>2</sup>	0,02

### NOTE

The Tecnocanapa technical office is available for any support before, during and after the construction phase.

## BULK PRODUCTS TO BE MIXED



AVAILABLE IN BAGS OF 20 KG

### DESCRIPTION

**Canapulo Grosso 0-25** is obtained by mechanical scutching of hemp bales and subsequent shredding of the stems. **Canapulo Grosso 0-25** is produced with hemp that is cultivated, processed and packaged from selected and certified seeds in accordance with European legislation on the content of Δ9-THC.

### COMPOSITION

- 100% sourced from hemp stalks
- 97,5% organic matter, of which:
- 52% cellulose, 18% lignin, 9% hemicellulose

### DENSITY

- About 110 kg/m<sup>3</sup> ± 5%

### HUMIDITY

- Less than 19% of the raw material, control systematic at the entrance;
- About 13% on average on the finished product, based on over 1500 measurements per year.

### DUST

The residual dust rate is controlled and is less than 2% after the dust removal process by suction and passing through a 0.25 mm sieve.

### PHYSICAL PROPERTIES

- Absorbing power: 375% (NF V19-002)
- Calorific value: 3690 cal/g (EN 14918)
- Thermal conductivity: 0,048 W/m.K (EN 12667)

### GRANULOMETRY

Particle size measurements are regularly carried out by screening in order to check the dimensional regularity of the hemp.

### GRANULOMETRIC BREAKDOWN

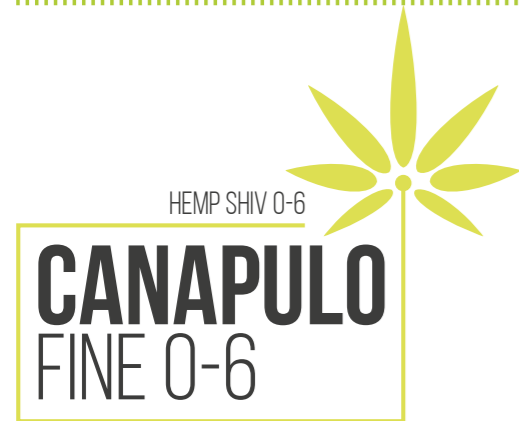
- More than 4 mm: less than 3%
- 1- 4 mm: greater than 90%
- Less than 0.6 mm: less than 2%

### CHEMICAL

- Water: from 9 to 14%
- Dry matter from 85 to 90% of which:
- Total organic matter: 97.5% on dry matter, of which:
  - Crude cellulose: 52%
  - Lignin: 18%
  - Hemicellulose: 9%
  - Minerals:
  - Calcium: 5 g/kg (dry)
  - Magnesium: 0,17 g/kg (dry)
  - Phosphorus: 0,18 g/kg (dry)
  - Potassium: 1,8 g/kg (dry)
  - Total nitrogen: da 0,3 a 1% (dry)
  - Total carbon: 49,2% (dry)
  - C/N: 160
- Ashes: 2%
- PH in suspension at 10%: 6.7



## BULK PRODUCTS TO BE MIXED



AVAILABLE IN BAGS OF 20 KG

### DESCRIPTION

**Canapulo Fine 0-6** is obtained by mechanical scutching of hemp bales and subsequent shredding of the stems. **Canapulo Fine 0-6** is produced with hemp that is cultivated, processed and packaged from selected and certified seeds in accordance with European legislation on the content of  $\Delta 9$ -THC.

### COMPOSITION

- 100% di provenienza da steli di canapa
- 97,5% di materia organica, di cui:
- 52% cellulosa, 18% lignina, 9% emicellulosa

### DENSITY

- About 130 Kg/m<sup>3</sup>  $\pm$  5%

### HUMIDITY

- 19% of the raw material, systematic control at the entrance;
- About 13% on average on the finished product, based on over 1500 measurements per year.

### GRANULOMETRY

Particle size measurements are regularly carried out by screening in order to check the dimensional regularity of the hemp.

Available in 20kg bags  
(n.21 bags per pallet dim.80x120 h. 220cm)

### GRANULOMETRIC BREAKDOWN:

- More than 4 mm: less than 3%
- 1- 4 mm: greater than 90%
- Less than 0.6 mm: less than 2%

### CHEMICAL

- Water: from 9 to 14%
- Dry matter from 85 to 90% of which:
- Total organic matter: 97.5% on dry matter, of which:
  - Crude cellulose: 52%
  - Lignin: 18%
  - Hemicellulose: 9%
  - Minerals:
  - Calcium: 5 g/kg (dry)
  - Magnesium: 0,17 g/kg (dry)
  - Phosphorus: 0,18 g/kg (dry)
  - Potassium: 1,8 g/kg (dry)
  - Total nitrogen: da 0,3 a 1% (dry)
  - Total carbon: 49,2% (dry)
  - C/N: 160
- Ashes: 2%
- PH in suspension at 10%: 6.7

## BULK PRODUCTS TO BE MIXED



AVAILABLE IN BAGS OF 15 KG

### DESCRIPTION

**Polvere di Canapa** (Hemp powder) is obtained by mechanical separation. This process is done by crushing hemp bales which separates the internal part of the stem (hemp shiv) from the bark (hemp fibre). After a continuous process of grinding, dedusting and sieving, the product is reduced into fragments of the desired length.

### USE

**Polvere di Canapa** (Hemp powder) is used as an inert vegetable component into hempcrete finishes made with aged Lime Putty, Calcium Carbonates, Cocciopesto Powder or Colored Earth.

### COMPOSITION

- Entirely sourced from cultivated hemp stalks that are transformed and packaged. Industrial hemp is cultivated from selected and certified seeds, in accordance with European legislation in terms of  $\Delta 9$ -THC content.

### GRANULOMETRY

From 0 to 1 mm. Particle size measurements are regularly carried out by screening in order to check the dimensional regularity of the grain.

### DENSITY

About 180 kg/m<sup>3</sup>

### CHEMICAL

- Acqua: da 9 a 14%
- Water: from 9 to 14%
- Hemicellulose: 34,60%
- Resistent Cellulose: 36,50%
- Olocellulose: 71,10%
- Lignin 20,40%
- Ceneri: 1,60%
- Minerals:
  - Calcium: 0,89-1,40%
  - Magnesium: 0,06 - 0,02%
  - Phosphorus: 0,2 - 0,5%
  - Potassium: 0,96 - 1,5%
  - Total nitrogen: da 0,4 - 1,
  - Sodium: 0,09%
  - Sulfur: 0,10 - 0,16%

### PACKAGE

Paper bags of 15kg



## BULK PRODUCTS TO BE MIXED

NATURAL DOLOMITIC BINDER

# LEGANTE DOLOMITICO NATURALE



AVAILABLE IN BAGS OF 25 KG

### DESCRIPTION

Il **Legante Dolomitico Naturale** è un naturale aereo legante senza additivi chimici o cementi, studiato per la preparazione on-site di biocompositi appartenenti alla linea **Bio Beton®** di Senini, adatto per la restaurazione di edifici storici, ristrutturazioni, nuovi edifici e per la crescente esigenza di costruire 'Nearly Zero-Energy Buildings' noti come NZEB.

### APPLICATIONS

Agisce come legante per la produzione di malta di base e per i sistemi di isolamento di: mura, pareti esterne/interne, tetti, tetti e sottopavimenti. È anche utilizzato per i sistemi di base e di finitura di rivestimenti, in architettura e in Neo-edilizia.

### USE

**Legante Dolomitico Naturale** si mescola con la shiv di canapa seguendo rapporti specifici, creando così ideali biocompositi per intonaci, pareti esterne, isolamento e substrati. **Legante Dolomitico Naturale** stabilizza la shiv, che a sua volta, grazie al suo contenuto di silice (circa 5%), idrolizza l'alto contenuto di ossido di calcio. La miscela protegge il biocomposito dal fuoco, dalla decomposizione, o dall'aggressione di roditori e insetti. La shiv migliora tutte le caratteristiche del naturale di calcio aumentando la sua porosità, la traspirabilità, la permeabilità al vapore acqueo e la capacità di gestire l'umidità in ambiente. La shiv aggiunge anche lavorabilità e corpo strutturale, permettendo di rivestire pareti verticali con un'unica applicazione di intonaco termico, per uno spessore di 1 a 45 cm.

TECHNICAL DATA - 'LEGANTE DOLOMITICO NATURALE'			
Density	400-550 Kg/m <sup>3</sup>	Residue of a 0.09 mm	≤ 7%
Physical state and colour	White dust	Residue of a 0.02 mm	≤ 2%
Humidity	< 2,5%	Content SO <sub>2</sub>	≤ 0,8%

### PHYSICAL CHARACTERISTICS

- Physical state: solid in fine powder;
- White color;
- Odor: none;

### METHOD OF SUPPLY

- Loose in tanker with pneumatic unloading
- Packaged in 30 kg bags
- Storage must take place in a dry place. We recommend the use within 8 weeks.

### WARNINGS

Non applicare in condizioni di forte radiazione solare o se esposti all'azione del vento. In ogni caso, eseguire i lavori a temperature ambiente tra 5 °C e 35 °C. Proteggere dal rapido essiccazione e dal gelo. 'Legante Dolomitico Naturale' ha un alto contenuto di ossido di calcio, si raccomanda l'uso di dispositivi di protezione personale e, in caso di contatto con gli occhi, consultare un medico immediatamente. Non strofinare. Lavare immediatamente e abbondantemente e per un lungo periodo con acqua potabile (possibilmente zuccherata) o con specifici lavaggi per gli occhi. Andare in camera di pronto soccorso il prima possibile. In caso di contatto con la pelle, lavare l'area interessata con acqua e sapone. Se inalato, lavare il naso e sciacquare la gola con acqua potabile. Prodotto destinato all'uso professionale. Proteggere adeguatamente le parti per le quali il prodotto non è destinato. L'operatore deve essere equipaggiato con le disposizioni delle regolazioni di sicurezza vigenti. Non accettiamo alcuna responsabilità per danni che possono derivare dall'uso improprio del prodotto. Il materiale non utilizzato e i contenitori devono essere smaltiti come rifiuti.

### NOTE

La compagnia si riserva il diritto di modificare le informazioni sopra riportate nel tempo, mantenendo le caratteristiche del prodotto.

## BULK PRODUCTS TO BE MIXED

PROBIOTIC ADDITIVE

# ADDITIVO PROBIOTICO



AVAILABLE IN A JERRY CAN OF 20LT OR TANK OF 1000 LT

### DESCRIPTION

**Additivo Probiotico** è un simbiotico blend di microrganismi presenti in natura che permettono di invertire e rigenerare i processi ossidativi e degenerativi. Aggiunto a Thick o Thin Hemp Shiv, Legante Dolomitico Naturale e Acqua, **Additivo Probiotico** accelera il processo di carbonatazione del calcare, fornendo ai biocompositi una maggiore resistenza meccanica e tempi di essiccazione più brevi. Inoltre, questa composizione permette di eliminare qualsiasi problema di muffe durante la fase di essiccazione dei biocompositi, poiché i probiotici presenti nutrono le batteriche che causano le muffe.

### COMPOSITION

- Mineral salts
- Raw sugar cane molasses
- Water and microorganisms

### PH VALUE

Between 3.4 and 3.7

### STORAGE

In a dark place between 5 and 25 degrees centigrade.

### SMELL

The smell must be slightly acidic, typical of fermented products.

### INDICATIONS

No particular precautions in case of physical contact with parts of the body even if accidentally ingested.

### USE

Mix **Additivo Probiotico** with thick or thin Hemp Shiv, Legante Dolomitico Naturale and Water in the following quantities depending on the application:

Bio Beton®	2 l/m <sup>3</sup>
Natural Beton® 200	2 l/m <sup>3</sup>
Natural Beton® 300	4 l/m <sup>3</sup>
Natural Beton® 500 Venezia	0,5 l/secchio

### PRESENT MICROORGANISMS

Non-pathogenic symbiotic bacterial cultures including lactic acid bacteria, photosynthesis bacteria and yeasts.

### WEIGHT

1.1 kg per liter of activated product.

### COLOR

The product has a dark brown color slightly transparent against the light.

### ENVIRONMENT

Completely biodegradable, it leaves no toxic or harmful residues for humans and the environment.



## RENDERS AND FINISHES



AVAILABLE IN BAGS OF 25 KG

### DESCRIPTION

**ICN - Intonaco di Calce Naturale** is a special plaster based on Wasselonne NHL-2 hydraulic lime, designed for the protection, recovery and restoration of masonry walls, even if heterogeneous, in brick, tuff rock and natural stone. It has a specific formula that makes it highly permeable to water vapour. It's meant for filling, rendering, base coating and rustic finishes. Also suitable for new or old walls for both internal and external. Due to its properties and natural colouring, it is particularly compatible for use on historical and artistic buildings as well as for green building.

### INSTALLATION

The substrates to be plastered must be stable, clean, consistent, free from weak parts, dust, bacterial proliferation, saline efflorescence, oils, greases, waxes, residues from previous processing, etc. If necessary, carry out a preventive cleaning of the substrate by pressure washing or sandblasting. The product can be mixed manually with an electric mixer at low speed, or applied by mechanical projection using plastering machines for premixed products. For manual applications, mix ICN by adding approximately 6.0-6.5 liters of clean water per 25kg bag in the cement mixer. First put the water in the concrete mixer, then add the powder and mix for about 2'-3' minutes, until a homogeneous and lump-free mixture is obtained. Apply the product with a trowel like a traditional plaster. The mixed product can be used within 3 hours of its mixing with water. The provision of corner protectors, splitting strips, level guides, etc. must be performed before applying the plaster layer on the entire wall. For mechanical projection applications, apply the product evenly, in a single layer, with a thickness between 10 and 20 mm. It is possible to overlap successive layers as long as the previous layer is not yet completely dry. Subsequently, the plaster is leveled and finished through the use of an aluminum straightedge. Any burrs or excess material are eliminated by scraping and rubbing the surfaces. When the plaster must be carried out on uneven substrates or constructive changes, interpose in the plaster the glass fiber reinforcement mesh with ARMANET 10x10 anti-alkaline primer. The mesh must be extended approximately 30 cm beyond the discontinuity line between the materials and be applied in the thickness of the plaster and not in complete adherence to the masonry. The surfaces thus prepared are suitable for receiving finishing products.

### COMPLIANCE

General purpose (GP) mortar for interior / exterior plasters - EN 998-1

### COMPOSITION

Premixed mineral plaster based on natural hydraulic lime of Wasselonne NHL 2, siliceous and calcareous aggregates selected and dosed in an appropriate granulometric curve and specific additives that improve its performance in terms of workability, breathability and adhesion to substrates.

### DATI TECNICI PRESTAZIONALI

- Natural color: light hazel beige
- Density of the powder: ~ 1350 kg/m<sup>3</sup> - EN 1015-10
- Maximum diameter of the aggregate: 2,0 mm
- Density of fresh mortar: ~ 1750 kg/m<sup>3</sup> - EN 1015-6
- Density of the hardened mortar: ~ 1450 kg/m<sup>3</sup> - EN 1015-10
- Adhesion: 0,15 N/mm<sup>2</sup> (FP) B - EN 1015-12
- Air content of the mix: 17% - EN 1015-7
- Compressive strength: 2,0 N/mm<sup>2</sup> CS II - EN 1015-11
- Flexural strength: 1,0 N/mm<sup>2</sup> - EN 1015-11
- Water absorption by capillarity: W0 - EN 1015-18

### WARNINGS

Avoid application at temperatures below + 5 ° C, in the presence of strong rain winds and under direct sunlight, or above + 35 ° C. Temperatures below + 8 ° C with a high percentage of relative humidity can give rise to superficial carbonation phenomena. The chromatic aspect may vary according to the environmental conditions of application. At high temperatures it is recommended to wet the substrate with water before applying the plaster; it is advisable to wet the plaster for a few days after laying in order to avoid cracking and high dehydration, which would decrease its mechanical resistance. Avoid application on frozen, dusty, unstable and inconsistent substrates. Apply the finish coating with thicknesses ranging from 10 to 20 mm per coat. Protect the applied product from frost, rain and fast drying for the first 24 hours after application. ICN - Intonaco di Calce Naturale is a product with natural coloring and is therefore susceptible to chromatic variations due to the progress of the extraction of the marly limestone.

### NOTE

Product for professional use. The data and prescriptions reported in this sheet, based on the best practical and laboratory experiences, are to be considered indicative in any case. Considering the different conditions of use and the intervention of factors independent of Senini (type of substrate, environmental conditions, directions of technical installation, etc.), whoever intends to use it is therefore required to establish whether the product is suitable for use or not. Our guarantee obligation is therefore limited to the quality and constancy of the same in relation to the finished product, and exclusively for the above data. The Senini company reserves the right to make technical changes without prior notice. This technical data sheet cancels and replaces any previous edition.

## RENDERS AND FINISHES



AVAILABLE IN BAGS OF 25 KG

### DESCRIPTION

**Stabilitura Naturale Traspirante Plus** is a mineral coating based on natural hydraulic lime, designed for the protection, recovery and restoration of smooth finishes and natural dehumidifying systems. It has a specific formula that makes it highly permeable to water vapour and adequate to obtain natural finishes with a sponged setting coat. Due to its properties and natural colouring it is particularly suitable for use on historical and artistic buildings as well as for green building.

### COMPOSITION

Premixed mineral product based on natural hydraulic lime, selected and dosed calcareous aggregates and specific additives that improve its performance in terms of workability, breathability and adhesion to substrates.

### MIXING

Mix a 25 kg bag of **Stabilitura Naturale Traspirante Plus** in approximately 7.0-8.0 liters of clean water and mix with a low-speed mixer drill until a homogeneous and lump-free mixture is obtained. Let the dough rest for about 3 minutes and stir briefly before use. The mixture thus obtained can be used within 90 minutes of its mixing. The product can also be used advantageously by continuous plastering machines.

### APPLICATION DATA

- Mixing water: 28-32%
- Mixing ratio: 1 bag + 7.0-8.0 liters of water
- Minimum application temperature: + 8 ° C
- Maximum application temperature: + 35 ° C
- Workability time: 90 minutes

### PRODUCT DATA

- Appearance: powder
- Colour: Light hazel beige
- Density of the powder: ~ 1150 kg / m<sup>3</sup> - EN 1015-10
- Maximum diameter of the aggregate: 1.0 mm
- Indicative consumption: 3.0-5.0 kg per m<sup>2</sup>
- Packaging: 25 kg bags on a pallet of 63 bags
- Conservation: 12 months in original intact packaging and with shelter from humidity

### NOTE

Product for professional use. The data and prescriptions reported in this sheet, based on the best practical and laboratory experiences, are to be considered indicative in any case. Considering the different conditions of use and the intervention of factors independent of Senini (type of substrate, environmental conditions, directions of technical installation, etc.), whoever intends to use it is therefore required to establish whether the product is suitable for use or not. Our guarantee obligation is therefore limited to the quality and constancy of the same in relation to the finished product, and exclusively for the above data. The Senini company reserves the right to make technical changes without prior notice. This technical data sheet cancels and replaces any previous edition.

### INSTALLATION

Stabilitura Naturale Traspirante Plus can be applied to any traditional mineral substrate and surface: traditional lime-based plasters, premixed plasters based on natural hydraulic lime, cement-lime mortars, restoration plasters, traditional, stable, consistent and non-crumbling substrates. The substrates to be treated must be homogeneous, stable, clean, consistent, free from weak parts, dust, bacterial proliferation, saline efflorescence, oils, greases, waxes, residues from previous processing. If necessary, carry out a preventive cleaning of the substrate by pressure washing or sandblasting. The surfaces must be dry and free or adequately protected from capillary rising damp phenomena.

### WARNINGS

Avoid application at temperatures below + 8 ° C, in the presence of strong rain winds and under direct sunlight or above + 30 ° C. Temperatures below + 8 ° C with a high percentage of relative humidity can give rise to superficial carbonation phenomena. At high temperatures it is recommended to wet the substrate with water before applying the smoothing compound. Avoid application on frozen, dusty, unstable and inconsistent substrates. Carry out smoothing thicknesses ranging from 2 to 8 mm per layer. Avoid direct application on substrates based on gypsum, fiber cement or mineral and organic foam panels. The chromatic aspect may vary according to the environmental conditions of application. The application of the colored product must be carried out on homogeneous substrates. Always use the same amount of water to prepare the mix in order to avoid possible color variations. On large surfaces, foresee possible interruptions near joints or downspouts, and for appropriate technical cuts. Avoid carrying out processing resumptions with time intervals on the same wall. Protect the applied product from frost, rain and rapid drying for the first 24 hours after application. Stabilitura Naturale Traspirante is a product with a natural color and is therefore susceptible to chromatic variations due to the progress of the extraction of the marly limestone in the quarry from which natural hydraulic lime is obtained.

## RENDERS AND FINISHES



AVAILABLE IN BAGS OF 25 KG

### DESCRIPTION

**Malta Fine** is a ready-to-use smoothing compound composed of lime putty and classified sands.

### USE

**Malta Fine** is a skim coat typically applied on base plasters such as 'Intonaco di **Intonaco di Calce Naturale** or **Bio Beton® 500 Venezia**. For internal use only.

### SURFACE PREPARATION

The surface to be coated must be flat, coplanar and free of dust and dirt. Any traces of oils, greases, waxes, etc. must be removed beforehand. **Malta Fine** can be applied on a base plaster previously moistened.

### PROCESSING

Apply with a metal trowel for a thickness of maximum 3 mm. After application, moisten and finish with a fine sponge float. It does not require mesh reinforcement.

### TECHNICAL DATA

Specific weight - Kg/m <sup>3</sup> dry	ca. 1.700 kg/m <sup>3</sup>
Granulometry	< 0,6 mm
Yield	ca. 3-4 kg/m <sup>2</sup>
Maximum thickness of application	ca. 3 mm
Vapour permeability - EN 1015-19	$\mu \leq 9$ (measured value)
Water absorption by capillarity - EN 1015-18	W0
Thermal conductivity - EN 1745	$\lambda = 0,45$ W/m·K (table value)
Class - UNI EN 998-1	GP-CSI-W0

## RENDERS AND FINISHES



AVAILABLE IN 20KG BUCKETS - YIELD PER BUCKET: 1.5 SQM FOR 1 CM OF THICKNESS

### DESCRIPTION

**Bio Beton® 500 Venezia** is a natural and highly breathable thermal plaster composed solely of **Canapulo Fine**, **Legante Dolomitico Naturale** and Symbiotic Microorganisms. The total absence of hydraulic binders and mineral aggregates in addition to the high cellulose component maximises the breathability of the masonry and makes **Bio Beton® 500 Venezia** the ideal solution for restoring masonry even in presence of rising damp and efflorescence of salts. With high energy efficiency, it is an excellent humidity regulator on new and existing walls, guarantees maximum healthiness and significantly improves the comfort of the living spaces.

### APPLICATIONS

Ready-to-use product to be applied manually. Before application, remove the existing damaged plaster and make sure that the substrate is free of friable parts. Apply a first coat of **Bio Beton® 500 Venezia** as a rough coat on the masonry and then apply several coats to reach the desired thickness, smooth and trowel. **Bio Beton® 500 Venezia** can be finished by leaving the fine hemp shiv exposed (material finish) or coated with 'Natural Breathable setting coat' or a skim coat of lime and sand.

Thickness - cm	3	5
Density - Kg/m <sup>3</sup> dry	500	500
Thermal conductivity - W/mK	0,12	0,12
K Thermal Transmittance - W/m <sup>2</sup> K	2,38	1,70
Vapour permeability - $\mu$	4,5	4,5
Specific heat capacity - J/kgK	1330	1330
Thermal Offset (according to ISO 13786)	0h 30'	1h 30'
Bending strength - N/mm <sup>2</sup>	0,8	0,8
Compressive strength - N/mm <sup>2</sup>	1,4	1,4
Adhesive strength to the substrate - N/mm <sup>2</sup>	0,02	0,02

### NOTE

The TecnoCanapa technical office is available for any support before, during and after the construction phase.



## RENDERS AND FINISHES



AVAILABLE IN BUCKETS OF 20L - YIELD PER BUCKET: 5 SQM FOR A THICKNESS OF 3 MM

### DESCRIPTION

**Canaposo** is a finish of lime putty aged 18 months and **Polvere di Canapa 0-1 mm** (hemp powder) with the addition of Calcium Carbonates (natural colour) or Cocciopesto Powder or Coloured Earth (colour of your choice). Desalinating and dehumidifying thanks to its high hygroscopic capacity, it is an excellent humidity regulator on new and existing walls, guarantees maximum healthiness and significantly improves the comfort of the living spaces.

### APPLICATION

Ready-to-use and applied manually with a thickness of 2-3mm. Before application remove the existing plaster if damaged and make sure that the substrate is free of friable parts. Apply a first coat of Canaposo as a rough coat and then apply several coats up to reach the desired thickness, smooth and trowel.

Specific weight	1.110 kg/m <sup>3</sup>
Vapour permeability - $\mu$	4,5

### NOTE

Tecnocanapa's technical office is available for any support before, during and after the implementation phase.

## RENDERS AND FINISHES



AVAILABLE IN BUCKETS OF 20L - YIELD PER BUCKET: 3 SQM FOR A THICKNESS OF 5 MM

### DESCRIPTION

**Canapulino** is a finish of lime putty aged 18 months and **Canapulo Fine 0-6** (hemp shiv) with the addition of Calcium Carbonates (natural colour) or Cocciopesto Powder or Coloured Earth (colour of your choice). Desalinating and dehumidifying thanks to its high hygroscopic capacity, it is an excellent humidity regulator on new and existing walls, guarantees maximum healthiness and significantly improves the comfort of the living spaces.

### APPLICATION

Ready-to-use and applied manually with a thickness of 5-10mm. Before application remove the existing plaster if damaged and make sure that the substrate is free of friable parts. Apply a first coat of Canaposo as a rough coat and then apply several coats up to reach the desired thickness, smooth and trowel.

Specific weight	1.110 kg/m <sup>3</sup>
Vapour permeability - $\mu$	4,5

### NOTE

Tecnocanapa's technical office is available for any support before, during and after the implementation phase.

The company is constantly improving and updating its product range.

Technical data, packaging and packing are therefore necessarily subject to change without notification.

Customers can always check with the company: technical data, documentation and samples.

For optimal use of our products, it is recommended to faithfully follow the instructions given in the Technical User Manual that is provided with the material or upon request.

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# SOME OF OUR REALISATIONS

CANEVA (PN)



PORTO RECANATI (MC)



ESLÖV-SVEZIA



BUSTO ARSIZIO (VA)



CASARZA LIGURE (GE)



CASTELLINA MARITTIMA (PI)



PORTO RECANATI (MC)



BUSTO ARSIZIO (VA)



CASARZA LIGURE (GE)



ESLÖV-SVEZIA



## » IN ITALY

HUNDREDS OF BUILDING SITES FROM NORTH TO SOUTH

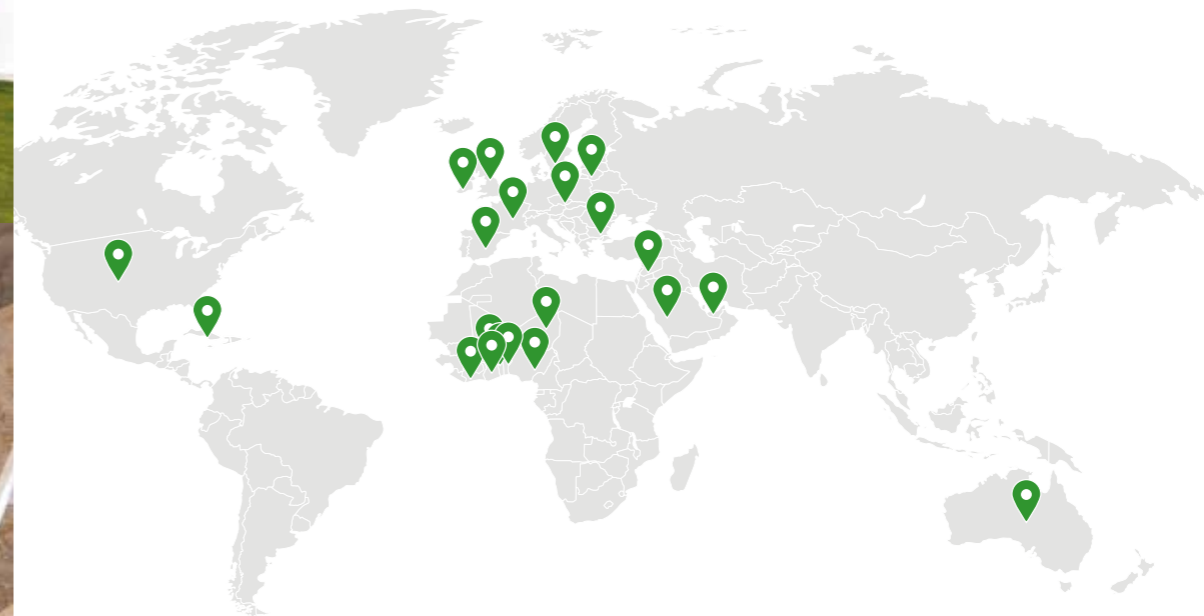


### THE HIGHLIGHTS:

- Albino (BG)
- Andorno Micca (BI)
- Anguillara Sabazia (RM)
- Arezzo
- Asti
- Avezzano (AQ)
- Bagno di Romagna (RA)
- Bardolino (VR)
- Barzio (LC)
- Beverino (SP)
- Boves (CN)
- Brugine (PD)
- Busto Arsizio (VA)
- Caldiero (VR)
- Camaione (LU)
- Caneva (PN)
- Capannori (LU)
- Casalgrande (RE)
- Casatenovo (LC)
- Cascina (PI)
- Castellina Marittima (PI)
- Castiglione delle Stiviere (MN)
- Cavriglia (AR)
- Ceggia (VE)
- Cercenasco (TO)
- Cessalto (TV)
- Chiari (BS)
- Faenza (RA)
- Grezzana (VR)
- Jesolo (VE)
- Lanzo di Intelvi (CO)
- Lecco
- Limena (PD)
- Livigno (SO)
- Longone al Segrino (CO)
- Manziana (RM)
- Medicina (BO)
- Negrar (VR)
- Padenghe sul Garda (BS)
- Pedemonte (VR)
- Pescantina (VR)
- Polverara (PD)
- Ponsacco (PI)
- Porto Recanati (MC)
- Roma
- Rosà (VI)
- Rovato (BS)
- Roverchiaretta (VR)
- San Donà di Piave (VE)
- San Maurizio Canavese (TO)
- San Pietro in Cariano (VR)
- Sant'Anna Arresi (CI)
- Terrazzo (VR)
- Torino
- Trevi (PG)
- Tricesimo (UD)
- Venezia
- Verona
- Zanica (BG)

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