

kilnher®

E C O R K

P R O J E C T E D C O R K



**Responsible creative  
solutions with the  
environment**

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## History and activity

GRUPO KILNHER constitutes the ECORK brand for the manufacture, distribution and application of projected natural cork.

We are a consolidated company in the sector, being present in the development of projected natural cork, from its origins.

Thanks to the enthusiasm and effort invested in this process, we have achieved an optimal formulation and market recognition for this fantastic product.

All this allows us to treasure a long history with more than 80 years of experience in the chemical industry sector.

Our trajectory is based on the quality of our products, service and commitment to our customers and the environment.

## Company policy

We started our activity with the clear objective of consolidating ourselves as a solid and operational company, with an active and entrepreneurial management and a respectful commitment to the environment.

One of our hallmarks has always been quality control in our actions and a close attitude in serving our customers.

We have projected natural cork over thousands of square meters, both in new works and in renovations and reforms, maintaining a close collaboration with architects, surveyors and engineers, who value the qualities of our products and services, which allows us to work for a great variety of clients, both from the private sector and the Public Administration.

Our experience is endorsed by the work carried out in hotel chains, industrial warehouses, warehouses, commercial premises, buildings and private homes as well as special works such as in water tanks, metallic structures, ovens, boats, etc.

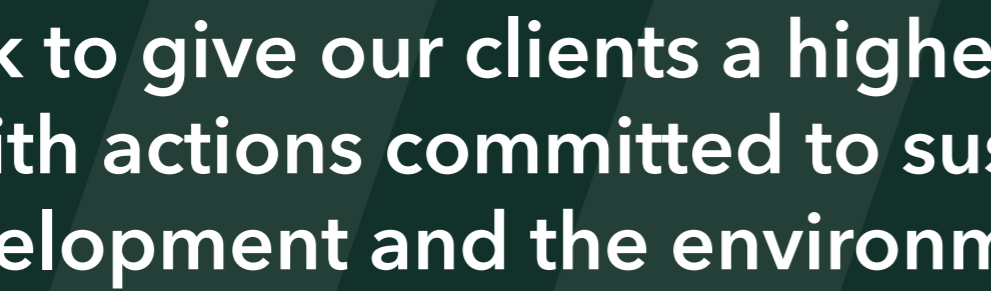
## Manufacturing, distribution and application

Ecork has, for the elaboration and development of its products, with qualified technicians in different subjects, with a long experience in the sector and with a human potential that reaffirms us in our intention to continue being an efficient company.

In MANUFACTURING, we work to obtain excellence in uniformity of criteria from formulation to final result.

In DISTRIBUTION, we have different channels that allow us to reach clients both nationally and internationally, as well as collaborating companies that distribute and apply our products.

In the APP, thanks to our experience, we train and we advise applicator companies that work and trust in the qualities of our products and the seriousness of our services.



**We work to give our clients a higher quality  
of life, with actions committed to sustainable  
development and the environment**



**Our products**

Natural projected cork



# Products

## Natural Cork as raw material



### Cork, our raw material

The cork of the cork oak is an extraordinary material, **completely natural, noble, renewable and biodegradable.**

Protects the tree from extreme weather conditions mediterranean, such as: drought, high temperatures summer, the night cold in winter and fires; allows you to breathe (gas exchange with the outside) at the same time that it is elastically circumscribed over the layers lately originated.

The cork covers its wood and thickens as the tree grows, and can reach 25 cm in thickness. **As a thermal insulator, it is 30 times higher than concrete.**

Its structure is made up of small cells that absorb noise very well, making it a fantastic acoustic insulation.

It is resistant to chemical agents, it is especially unassailable by microorganisms and chemically and microbiologically inert, constituting a brake on the development of disease-causing fungi.

**It is a practically rot-proof material, and the membrane of its cells is waterproof and hermetic.**

The chemical structure of cork is resistant to acids, fuels and lubricants, and does not rot when immersed in water for long periods of time.

Faced with water in a liquid state, for its part, it is highly impervious, hence its use in bottle corks.

### Why Cork?

Cork is a product in which Nature has expressed its great wisdom after centuries of evolution and has characteristics unmatched by any other synthetic product.

In addition, it is an ecological product, without harmful effects on health or the environment. Its benefits are so interesting that today it is used even in the **AEROSPACE INDUSTRY.**

Cork has been supplied in different formats to the aerospace industry. Aerospace launch systems that have used this raw material include the Space Shuttle, Delta, Atlas, Titan, and Ariane, among many other space vehicles.

### Where it's found?

The extraction of the cork is carried out by means of a traditional artisan process, respectful of the tree, which is carried out several times throughout its life.

They are only distributed by seven countries in the Western Mediterranean: Spain, Portugal, Morocco, Algeria, Italy, France and Tunisia, with Spain and Portugal being the main world producers of this material.





# Cork

Ecork Projected Natural

## Our product

We can define Ecork Projected Natural Cork as a multi-functional ecological insulation or coating system that can perform numerous functions.

The natural cork is mixed by adding natural fats, vinyls, acrylic resins and other components, materials suitable to maintain and enhance the properties of cork, thus giving the cork paste the characteristics of durability, malleability and industrial application to be projected on any type of support, in all industrial and construction sectors, preserving its ecological nature.

Ecork Projected Natural Cork is a totally ecological product that protects surfaces from different types of aggressions, as well as being decorative and creating a cozy atmosphere.



# Cork

Ecork Projected Natural



## A product loaded with properties

Thanks to its low thermal conductivity and its resistance to humidity, it never overcools, nor does it easily deform, responding very well to the passage of time.

It has a high resistance to wear, which is due to its ease in resisting pressure. It is capable of recovering practically all its initial volume, even when subjected to very high pressure.

It achieves great adherence to surfaces, on which it has a suction cup effect, while providing very effective thermal and acoustic properties.

It acts cutaneously, this means that it is 100% waterproof and fully breathable.

Ecork Projected Natural Cork is light and elastic, which prevents the outcrop of cracks and prevents the appearance of salt peter from the outside on the supports where it is applied.

It also has a certain flame retardant capacity, being an excellent fire retardant.

It allows a perfect gas exchange that minimizes the oxidation of the product it covers.



# Cork

Ecork Projected Natural

## Format in the market

Ecork Projected Natural Cork is presented in 10 kg buckets. We have the following format on the market:

Ecork HD. With an average grain size of 3 to 6 mm, which provides a rougher finish.

With Ecork you can sand the surface if you want to obtain a completely smooth finish, without roughness. In this way the particle will be visible, creating a very aesthetic visual effect.

It is also possible to apply it with a trowel and obtain a smooth finish. To do this, the trowel must be moistened previously. In this way, the cork particle will not be visible.

## Multiple applications

Ecork Projected Natural Cork is projected on multiple surfaces: glass, tile with or without enamel, cement mortar plasters, exposed concrete, ceramic brick, block, aluminum, polycarbonate, fibers, asphalt fabric, steel beams, fiber cement, plaster, etc. plaster, plasterboard, wood, chipboard, MDF sheet, PVC as well as many other products on the market.

The projected cork can also be applied as an intermediate product between other construction materials.

Likewise, on the projected cork itself, various materials can be applied: plaster, tile, tile, fibers, tiles, paints, plaster of mortar and cement, etc ...

In all these actions we can achieve a definitive solution to problems related to waterproofing, humidity, thermal and acoustic insulation, asbestos encapsulation and fire-proofing in the different construction elements, in addition to those caused by saltpeter, oxidation, bacteria and surfaces. sliders.



- |  |  |   |   |
|--|--|---|---|
| <br>Ecological      | <br>Breathable          | <br>Waterproof               | <br>Stable                   |
| <br>Adherent        | <br>Continuous          | <br>Low thermal conductivity | <br>Elastic                  |
| <br>Flame retardant | <br>Antioxidant         | <br>Antibacterial            | <br>Antisalitre              |
| <br>Rotten         | <br>Acoustic insulator | <br>Thermal insulator       | <br>Durable and strong      |
| <br>Anti humidity | <br>Decorative        | <br>Sealant                | <br>Asbestos encapsulation |



# Waterproofing

Applications of Projected Natural Cork



Properties that favor waterproofing:



# Facades

Ecork Projected Natural Cork has various properties that guarantee a perfect waterproofing of the facades.

- Durability over time.
- Elasticity for adaptation on undulations and resistance to small movements.
- Impermeability and tightness.
- Thermal bridge break and product continuity without generating joints.

**We will avoid the continuous repainting of your facade and the appearance of small cracks or fissures.**

# Covers

Ecork Projected Natural Cork is a 100% ecological continuous coating, achieving a film between 3 and 6 mm thick on the roof where it is applied, producing a total encapsulation.

This solution is fast and inexpensive and avoids the costly works involved in the demolition and construction of a new roof.

# The ultimate solution

The pathologies produced by humidity can be avoided thanks to the 79% breathability of our Projected Natural Cork, which allows the natural evaporation of water and prevents blooms and the smell of humidity.

Ecork Projected Natural Cork prevents water from entering the wall from the outside, but expels moisture from the inside.

Thanks to its high adherence and resistance to water and UVA rays, it remains unalterable for many years. Reason enough why the company offers a 10 year warranty.

The natural cork incorporated in our product is waterproof on vertical surfaces. On horizontal surfaces we recommend previously applying a watertight membrane to further promote impermeability.

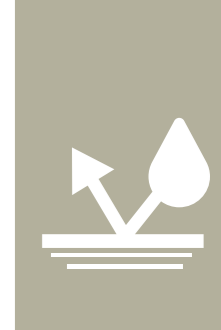
Thanks to its low thermal conductivity and its resistance to humidity, it never overcools, nor does it easily deform, responding very well to the passage of time. Furthermore, cork has a high resistance to wear which is due to its ease of resisting pressure.

It is capable of recovering practically all its initial volume, even when subjected to very high pressure.

Thanks to our long experience we dare to ensure that Ecork Projected Natural Cork is the definitive solution for problems related to humidity.

# Humidity

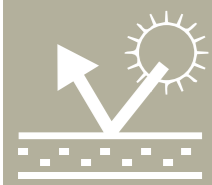
Applications of Projected Natural Cork



Properties that favor waterproofing:







# Thermal insulator

Applications of Projected Natural Cork



Properties that favor thermal insulation:



# Energy saving

Good insulation can save up to 40% in the energy costs of a home. This percentage can vary depending on the degree of insulation of the different construction materials, depending on their thermal coefficient, the climatic zone or the orientation of the house.

# Specific thermal insulator

Ecork Projected Cork is a magnificent thermal corrector.

In general, all materials offer resistance to the passage of heat, that is, they are thermal insulators. The difference is that some materials such as our Projected Natural Cork have a great resistance, so that small thicknesses of material present a sufficient resistance to the use that you want to give them. The most correct name for this type of material would be a specific thermal insulator.

With thermal insulation we seek to minimize the effect of conduction of thermal energy. Specific thermal insulators are considered to be those that have a thermal conductivity lower than  $\lambda < 0,08 \text{ W/m}\cdot\text{C}^*$ .

Furthermore, thanks to the continuity that we achieve on the surface where the Projected Natural Cork is applied, the entry of cold or heat is reduced by a BREAKAGE OF THE THERMAL BRIDGE between the construction materials. During the hours of maximum exposure to extreme temperatures, the reduction of the heat energy flux in either direction is noticeable for an indeterminate period of time.

\* Example of thermal conductivities from highest to lowest inW/(K•m):  
Aluminum = 237 - Wood = 0.13 - Sprayed Cork = 0.069

# Soundproofing

Soundproofing an enclosure means isolating it acoustically from the outside, which implies a double direction:

- Prevent the sound we produce from going outside (avoid noise pollution).
- Prevent outside noise from penetrating and distorting the sound in the room.

It is interesting to note that if the noise level is reduced in one environment, it is also reduced in neighboring environments, although the insulation itself does not improve.

Ecork Projected Natural Cork considerably reduces the rebound effect of acoustic waves, thus eliminating reverberation and returning a much cleaner and clearer sound energy. Our product dampens vibrations inside the building, both internally and externally, thus becoming a great acoustic conditioner.

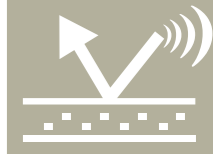
## REDUCTION OF SOUND TRANSMISSION BY IMPACT.

The noise level that is produced in the reception room immediately below a slab by exciting it by means of a standard impact machine, is called: normalized impact noise level Ln.

The improvement of the impact noise to avoid the propagation of this type of noise must be carried out with an elastic cut between the floor covering and the slab. One of the best solutions is the application of Ecork projected natural cork.

# Acoustic insulator

Applications of Projected Natural Cork



Properties that favor acoustic insulation:





# Fire retardant

## Applications of Projected Natural Cork



Properties that make it a great fire retardant material:



# Reaction to fire

Ecork Projected Natural Cork also has certain beneficial characteristics in the fight against fire.

It is found within the materials defined as rigid coatings, responding to the M-2 rating as Non-Flammable or Hardly Flammable.

Its combustion is null or very slow, so we can define Ecork Projected Natural Cork as an excellent fire retardant.

ENAC tests and certifications regarding their response to fire:

- Fire classification B-s2d0. Smoke production: Medium quantity and speed. Absence of inflamed drops.
- Reaction to fire outside the deck BRoofT1.

Currently, Ecork products continue in constant development and research to further strengthen the fire retardant properties that cork itself presents.

# Natural beauty

Our Projected Natural Cork for its characteristic finish and its ecological condition, has a relevant importance.

Its appearance is reminiscent of the forests where it comes from: the trees and the earth.

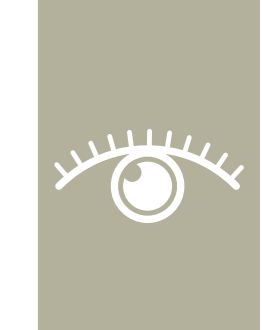
Our Projected Natural Cork is a totally ecological product that, in addition to being decorative, protects surfaces from different types of aggressions, providing more security and creating a more welcoming environment for our facilities.

FEATURES:

- Finishing with a rough and firm vegetal texture.
- By being able to sand the surface, we can obtain a smooth finish.
- Wide range of colors, to make possible the design of different environments.
- In practice, it allows the printing of logos, letters and motifs.

# Aesthetics and decoration

## Applications of Projected Natural Cork



Aesthetic and decorative properties:





# Asbestos encapsulation

## Applications of Projected Natural Cork

### Problematic

Asbestos is dangerous because of the shape of the microscopic fibers that make it up, rather than because of its chemical composition.

These fibers are dangerous when they are suspended in the air we breathe since they are incorporated into our respiratory system and cause serious diseases such as lung cancer, among others.

It is a great risk to our health because these fibers can be incorporated into our environment almost without realizing it due to the effect of their natural aging.

Although this material has already been banned and is no longer used, it may be necessary to repair or replace some of these covers that were made when asbestos was not yet prohibited in Spain.

### Regulation

In the year 2001 in Spain the commercialization and use of asbestos was prohibited following the European directives CEE N° 83/477 / CEE of 19/9/83, 87/217 / CEE of 19/3/87, 91/382 / CEE of 7/25/91, EUR LEX 32003 L0018ES, and Royal Decree 396/2006 of March 31, due to the great risk to health posed by the handling of this type of material.

Companies that handle asbestos must be registered in the Register of Companies with Asbestos Risk (R.E.R.A.).

#### REFERENCE IN THE REGULATION ON THE ASBESTOS ENCAPSULATION

**A - Royal Decree 396/2006 of March 31:**  
CHAPTER I, Article 3. Scope of Application  
You can choose to encapsulate and seal materials in good condition that contain asbestos.

**B - Order of December 7, 2001:**  
Asbestos encapsulation can be used in diaphragms for existing installations, until they reach the end of their useful life.



### Encapsulation

Once the decision to eliminate the asbestos problem has been made, it remains to decide what to do with the material.

Through encapsulation we cover the roof with suitable materials that allow its total sealing in such a way as to avoid the contribution of microscopic fibers to the environment.

The materials or products used for this solution must meet a series of requirements and thus make them ideal products for encapsulating asbestos.

- It must have durability over time.
- Elasticity for adaptation on undulations and resistance to small movements.
- Impermeability and tightness.
- Product continuity without generating joints.

By airbrushing we apply an elastomeric material, in liquid form, on the material that contains asbestos, creating a membrane on the surface in order to avoid the release of fibers with asbestos particles contained in asbestos to the environment and ensuring its durability.

### Advantage

The Projected Cork whose main component is natural cork, is a 100% ecological continuous coating, created exclusively for the encapsulation of asbestos, which forms a film of between 3 to 6 mm. thick on the asbestos cover where it is applied, producing a total encapsulation that prevents the exit of any type of microscopic asbestos fiber into the environment.

This solution is the fastest and cheapest, since it avoids the costly works that would entail the demolition and construction of a new roof.

In addition, it avoids harmful contact with asbestos, since it is not necessary to come into contact with it, it insulates, waterproofs and seals by means of inexpensive and adaptable solutions to all cases.

Another great advantage is that it hardly interrupts the activity of the industry.

Its excellent durability allows us to guarantee up to a period of 10 years.

Ultimately, Ecork Projected Natural Cork prevents the release of fibers with harmful asbestos particles contained in asbestos into the air, avoiding incurring asbestos removal costs as well as the long and expensive removal process.

Properties for asbestos encapsulation:





# Special jobs

Applications of Projected Natural Cork



## Reaction to fire

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Currently, Ecork products continue in constant development and research to further strengthen the fire retardant properties that cork itself presents.



## Industry

Our material is used in the industry for various purposes such as thermal and acoustic insulation.

It is used as thermal insulation in pipes and conduits and is very effective in freight containers, construction containers, modular houses and cabins that are subjected to inclement weather for long periods of time.

It minimizes the oxidation of the product it covers to the maximum, protects against corrosion and avoids condensation due to changes in temperature, hence it is ideal as a coating for metallic structures.

It prevents the appearance of saltpeter from the outside on the supports where it is applied, hence its anti-saltpeter characteristics.

Sprayed cork can be applied to practically any type of surface.



## Nautical sector

Ecork Projected Natural Cork offers an ecological and unique solution for your boats and for the nautical industry in general.

It provides the non-slip and waterproof qualities that facilitate its maintenance and also allows it to be lighter.

It can be easily cleaned, does not require any special maintenance and allows the incorporation of natural dyes.

It is light, ecological and very durable. It is also breathable, dries without bad odors and does not cause rot even after permanent immersion in water.

As an example in nautical construction, we can highlight the Revolution 22. This sailboat that uses the latest technology for its construction, incorporates projected natural cork among its materials.



## Transport special goods

For the transport of goods that require special protection against condensation, humidity and temperature, such as works of art, antiques, furniture, electronic equipment etc. that may have a monetary or sentimental value, Ecork Projected Natural Cork, such as Multifunctional ecological insulation or coating system, meets the ideal characteristics to cover internally and / or externally the packaging where the items will be deposited.





# Warranty Ecork



## Ecork

Ecork products have a 10 year warranty period.

## Quality and closeness

One of our hallmarks has always been quality control in our actions as well as a close attitude in serving our customers.

As a sign of the confidence we have in our products, we offer a 10-year waterproofing guarantee on all of them.

Ecork products are approved and certified by the main quality and responsible production seals.



**Out of conscience and out of commitment.  
We nourish ourselves with a product that is  
100% natural, whose raw material comes  
from cork oaks**

**Committed to the  
environment**



# Committed to the environment

## Natural evolution and local development

Man can transform and appropriate nature to develop society.

Human society is a combined product of natural evolution and social development. Hence its dual nature derives.

Consequently, the activities of man and especially the productive processes, which constitute the basis of wealth and social progress, must be considered from this perspective of reciprocal integration of the natural and the social.

Man depends on nature for his means of life, but with a qualitatively differential property with respect to other animals: his social and rational condition.

We are the only living species with the capacity to consciously transform the world: nature, society and thought.

This property can only be conceived through an economic, social, political and cultural organization, in which Nature plays an extremely vital role.

Unlimited growth, war and an industry forced to produce massively and insensitive to beauty and life, have been contaminating and compromising the balance of the planet.

Nature cannot be in this technological and industrial age, a mere source of raw material for production and for profit. Man cannot apply an "ideology of domination of nature".

In this process of production and use of cork throughout history, it is conclusively demonstrated that the relationship between human society and its natural environment has a mutual benefit, in which man provides a conservation benefit and nature provides a social and economic benefit.



## Environment and economy

We are a company committed to the environment, therefore in our work, we always seek to eliminate or control those products and activities that harm it, by developing and applying the necessary measures to minimize the environmental impact, which will also result in our health.

We believe in sustainable development, so we try to reduce any negative impact of our operations on the environment, paying special attention to the design and development of new products and services.

The use of cork generates other benefits in addition to the environmental ones.

Only in Spain, the second largest producer of cork after Portugal, there are 600 registered companies dedicated to the manufacture of products with this material, employing around 3000 people.





## Social heritage, cultural and ethnological

The extraction of cork, which has been carried out since ancient times, is a very respectful process with the environment and with very low impact.

It is done between every 9 and 12 years, without cutting or damaging the tree, which can live between 170 and 200 years.

In Extremadura, as in the rest of the cork-producing areas of Spain, the dehesa and the Mediterranean forest have been promoted for years as ecosystems that generate wealth and paradigms of biodiversity, with an important social, cultural and ethnological heritage of the populations local.

In this process, the respect of a people for the natural environment that surrounds them is transmitted from generation to generation and that provides them year after year with a benefit with "LA SACA DE LA CORCHA".

## Ecork and preservation environment

The new waste management and ecological technologies implemented in Ecork products are just one example of our commitment to preserving the environment.

Our environmental policy is based on principles such as authorized waste management. The recycling of raw materials, the reduced and responsible use of energy and water, the controlled use of consumables and collaboration for the conservation of natural spaces, Dehesa and Mediterranean Mountains.

## WWF Iberian Forest Trade Network

Cork oak forests are one of the most valuable ecosystems in terms of biodiversity in Europe, hosting some of the most emblematic and threatened animal species of Mediterranean ecosystems, such as the imperial eagle, the black stork or the Iberian lynx.

Its proper management provides valuable environmental services such as soil conservation, protection against climate change and desertification, carbon fixation, aquifer recharge, and control of surface runoff.

Ecork is committed to cork that comes from cork oak forests managed in a responsible way, both environmentally and socially, and for this the best tool is the FSC forest certification seal.

## Ecork creates healthy environments

Condensation moisture problems as a construction pathology can put our health and ours at risk.

There are people who are sensitive to molds and it is usually late when they realize it. Mold on the walls can be a risk to take into account, which is perfectly avoided with the application of Ecork Projected Natural Cork.

The encapsulation of uralite is a gesture that not only protects us but also the rest of living beings. An act of conscience that benefits us all.







**Gallery of  
work done**



# Facades

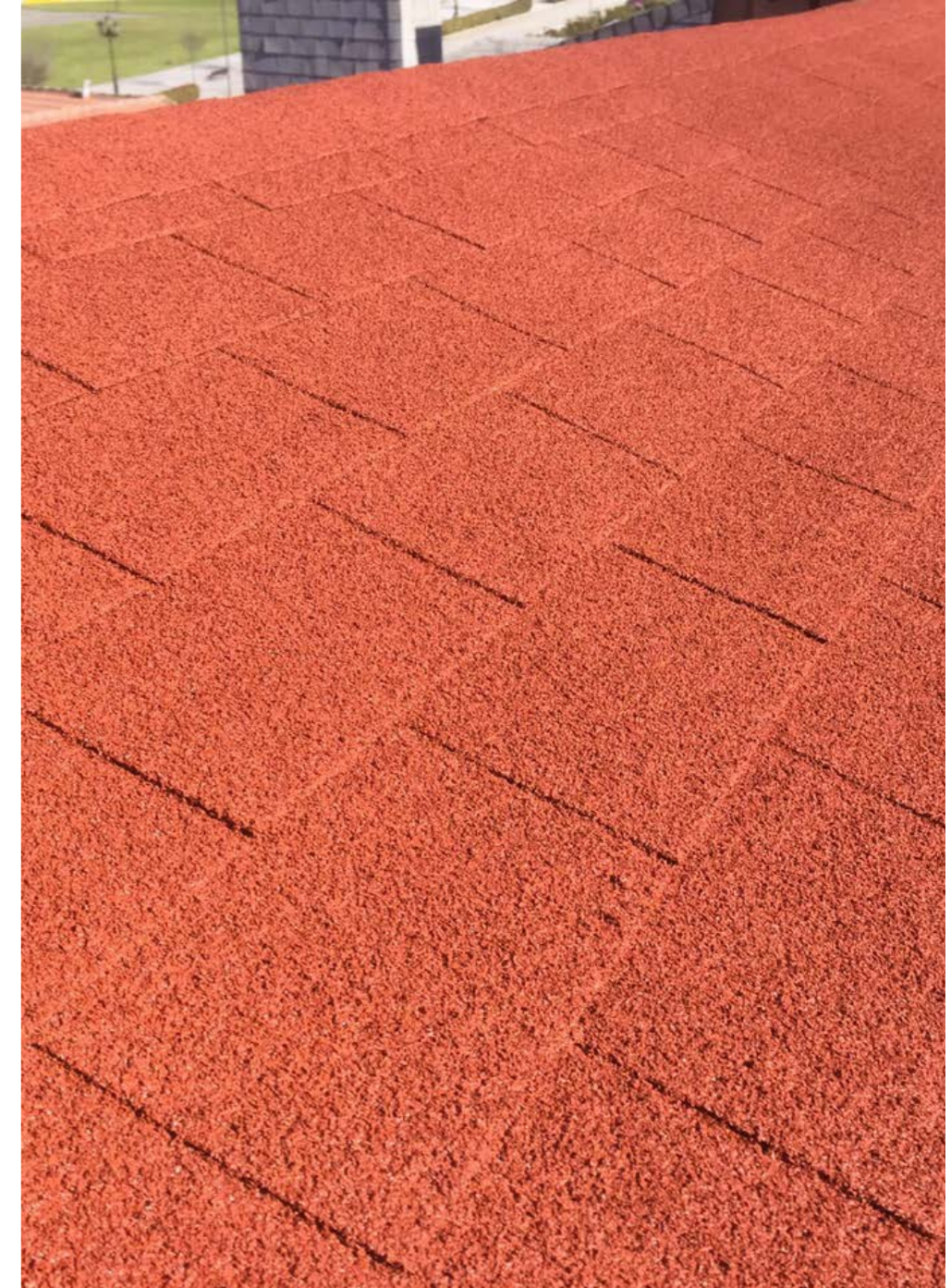


# Facades





# Roofs



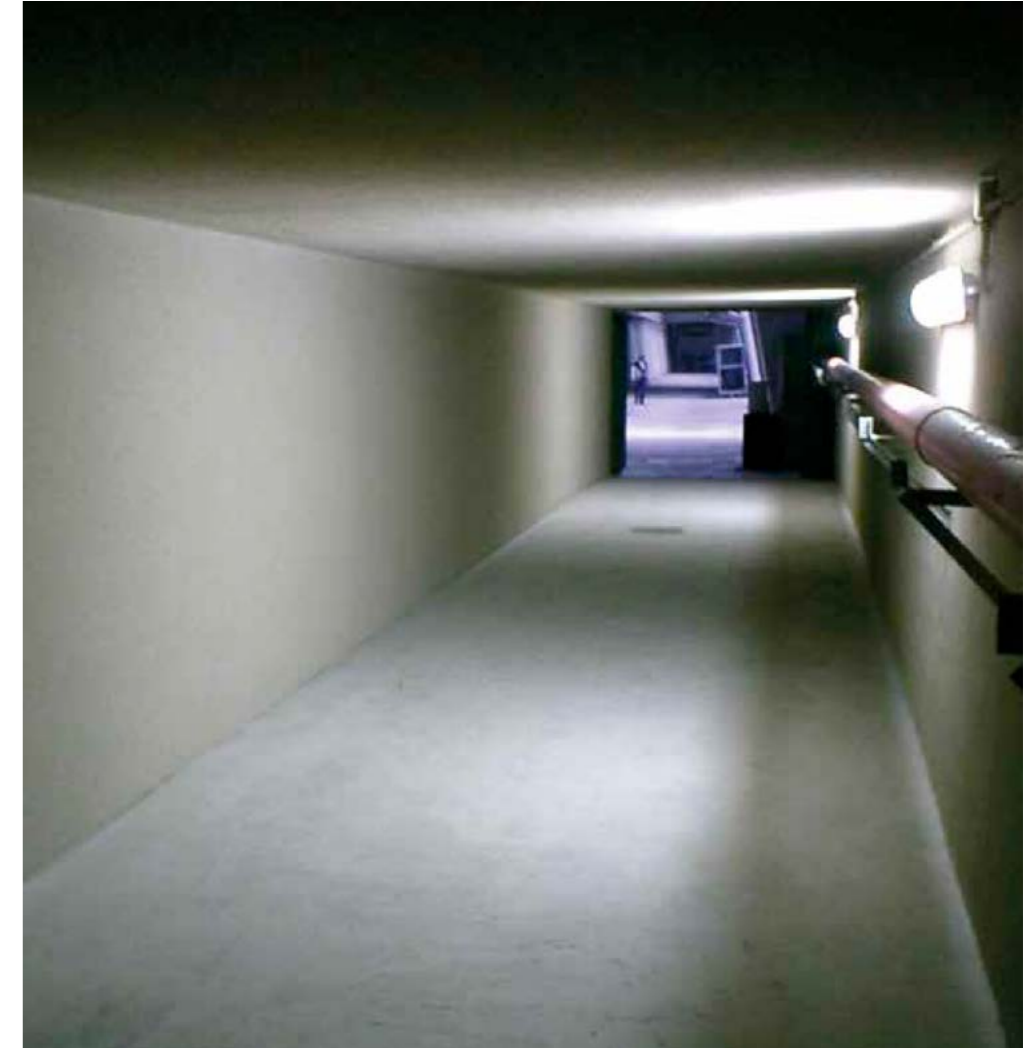
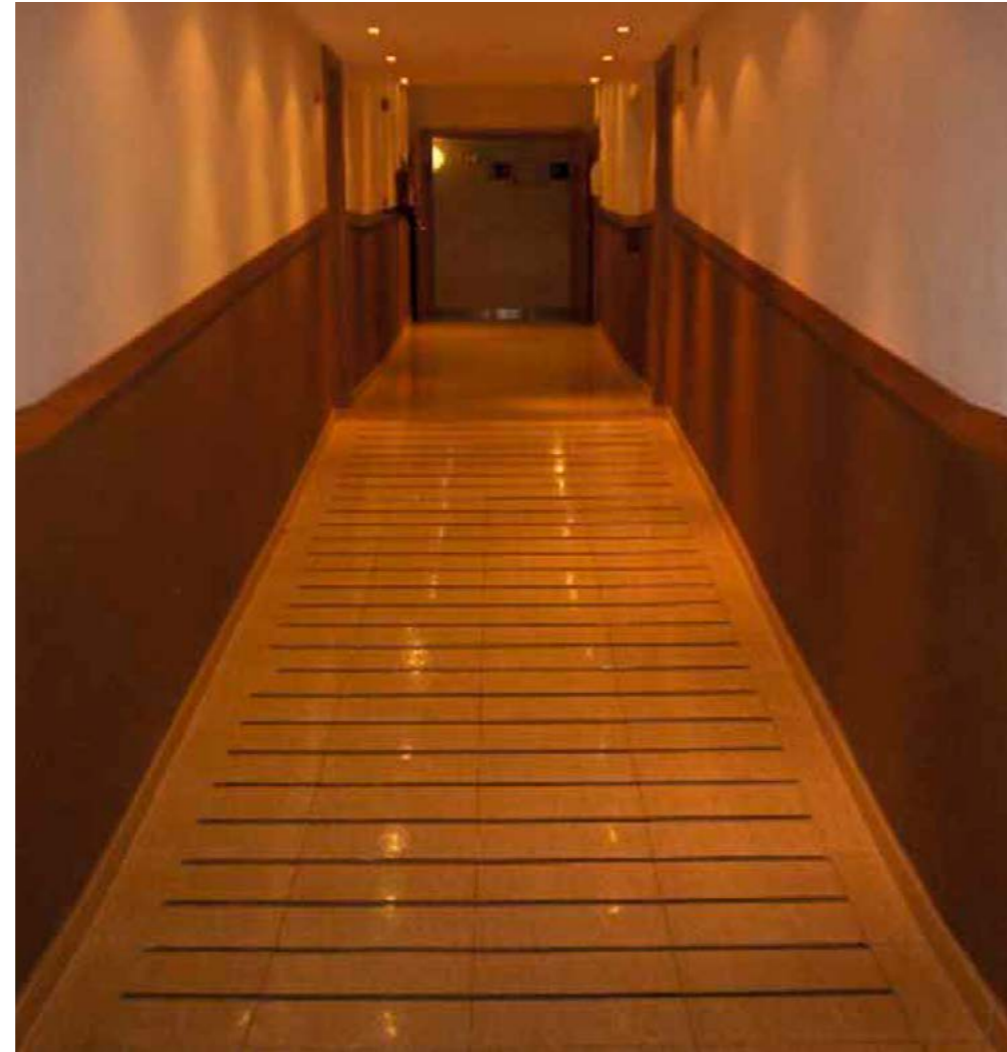




# Humidity

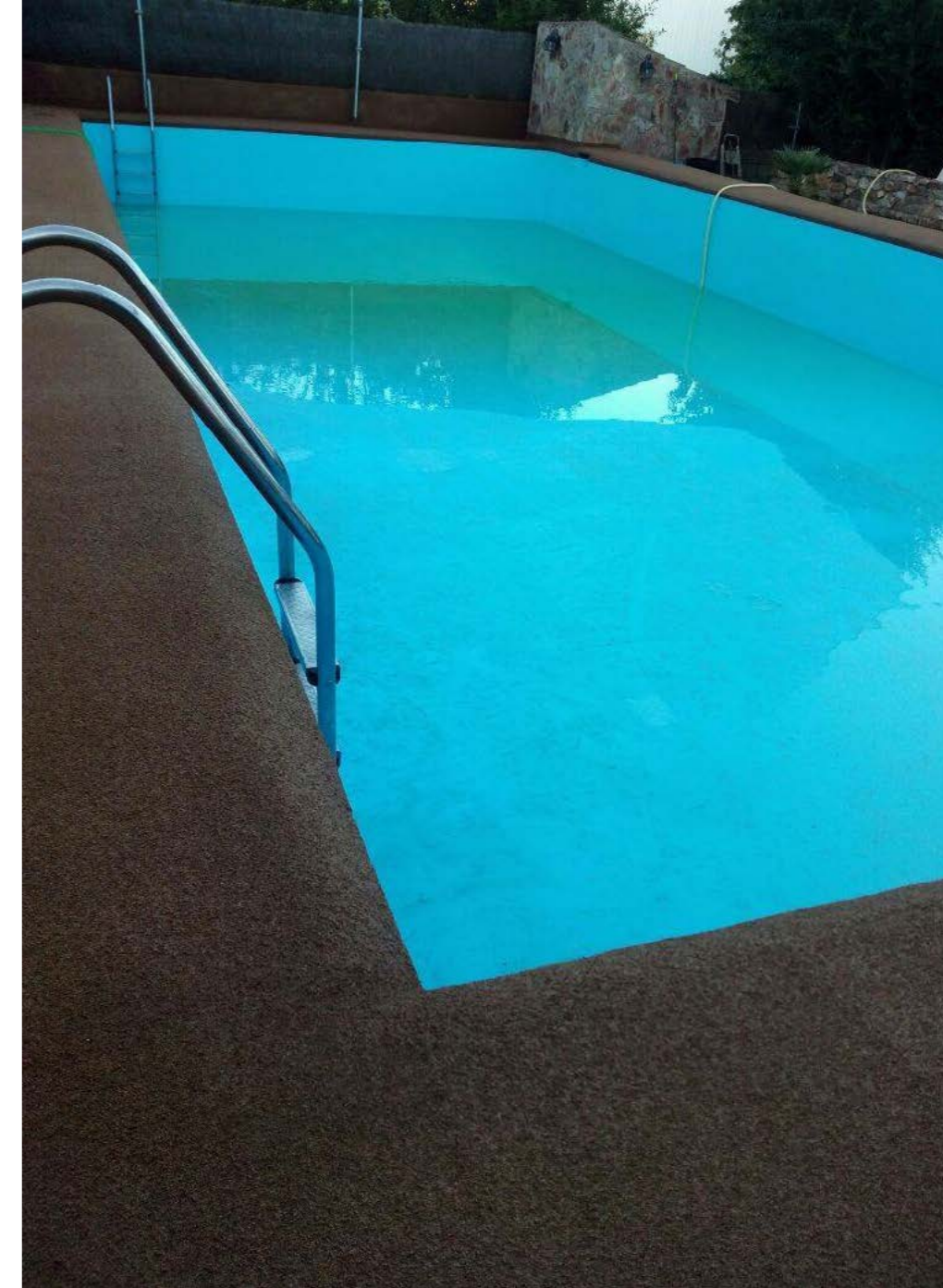


Humidity





# Pool terraces





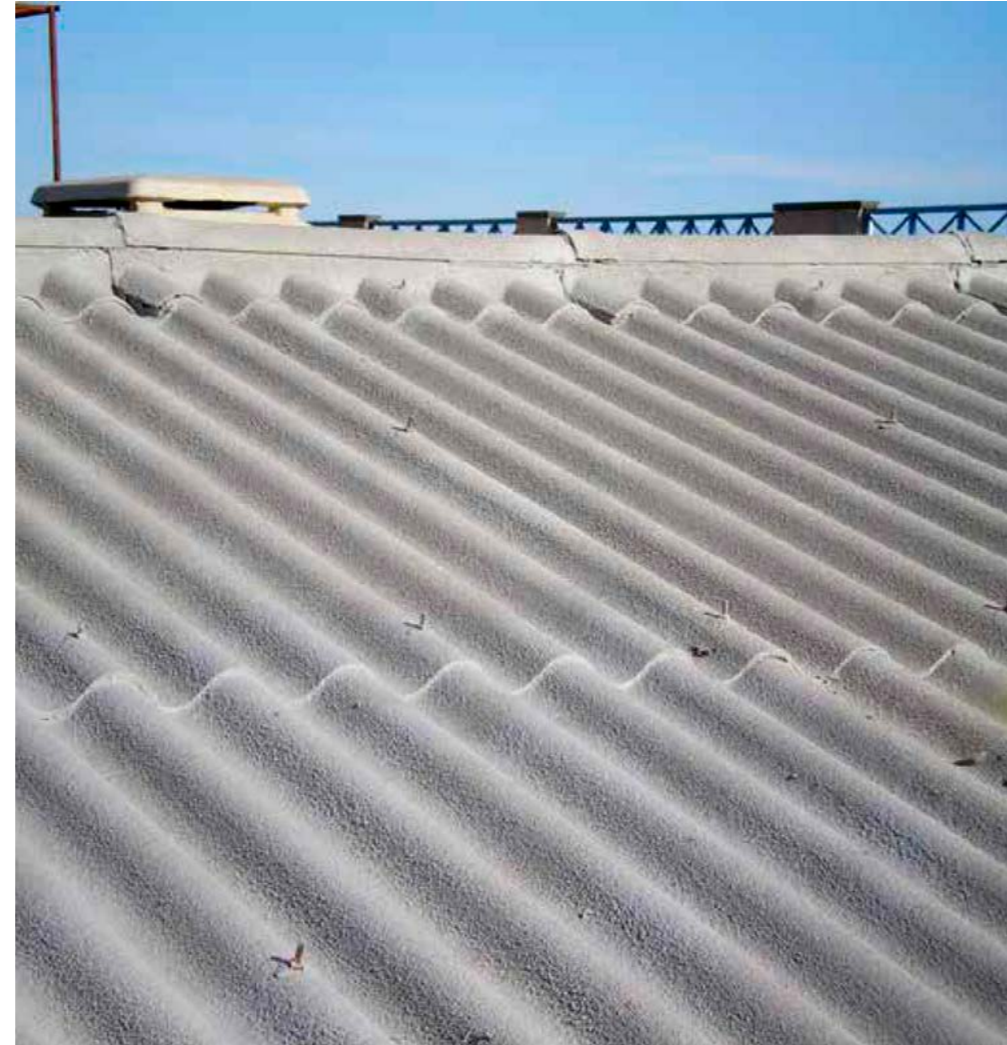
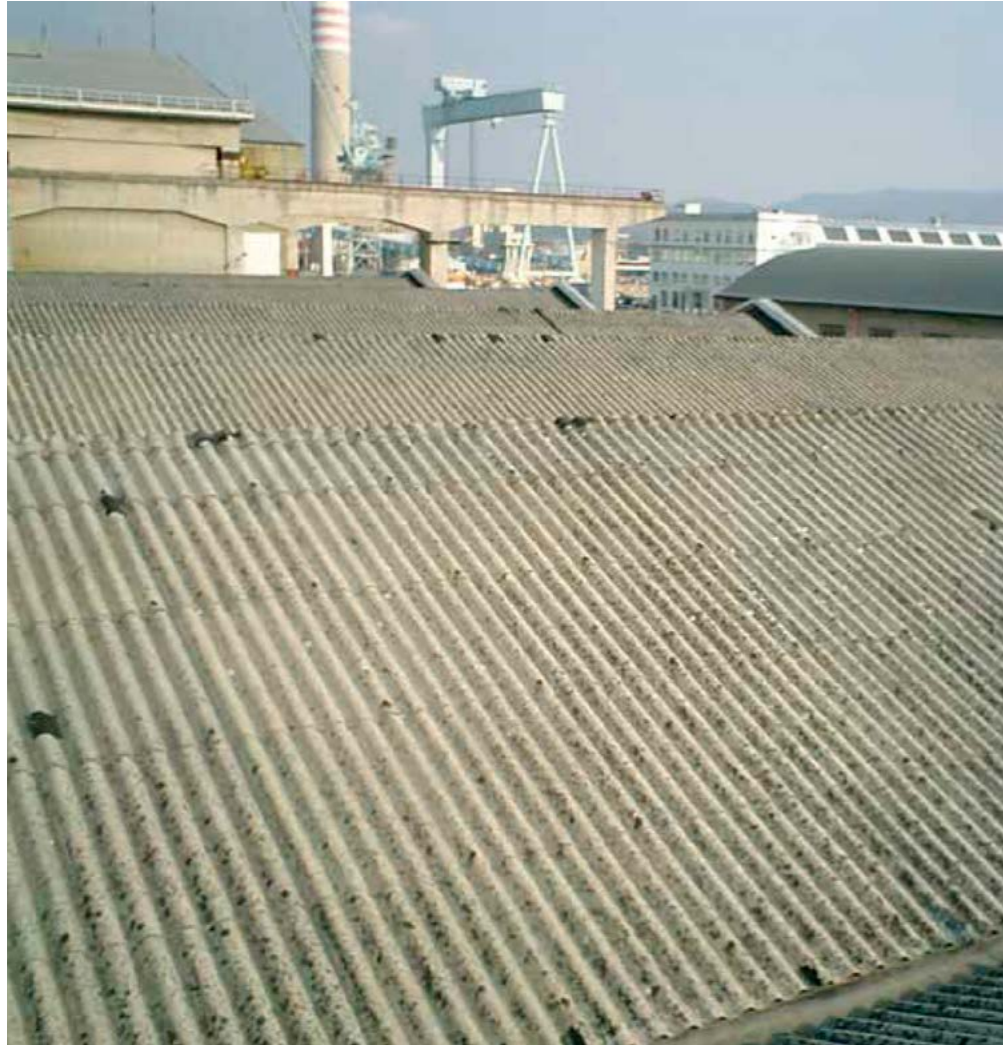


Asbestos





# Asbestos



# Special Works



Metal door

Work shed

Control booth



Special Works



Skylight



Wagon interior



Deposit



Iron beams



Transport boxes



Electrical metal cabinets



Low traffic floor





# Special Works



Ship





Special  
Works



Wooden bar counter



ANNEXED

**Annexed**

# Ecork Projected Natural Cork

MAIN CHARACTERISTICS			
Appearance			Rough paste
Finish texture			Rough
Color			Natural cork and color chart Rough
Specific gravity and density			0,5-0,7 g/cm <sup>3</sup>
Granulometry			0,5-0,8 mm
Breathable permeability to water vapor		Class 1	EN-1062-3
Capillary absorption			0,21kg/m <sup>2</sup> H 0,5
Dangerous substances			No presenta. Producto Natural
Thermal conductivity		UNE-EN 12667:2002	0,068
Thermal resistance / Surface resistance			R=0.1401 M <sup>2</sup> K/W
Reaction to fire	M1 Virtually non-combustible	Bs2d0 y Broof	UNE-EN 13501:2002
Non-slip		Value 3	UNE-EN 12633
Salt mist test		Stable value	UNE-EN ISO 9227
Asbestos encapsulation		Technical Suitability	Complies with regulations
Temperature resistance			-65 °C a 177 °C
Adhesion (by pull-out test)			0,065n/mm <sup>2</sup>
Adhesion on materials			Any construction and or existing material
Resistance to the marine and saline environment		Complies with	UNE-EN ISO 9227:2006
Tensile strength		UNE-EN-1542:1994	1,9 Mpa
Elongation at break elongation	Elongación	34,6%	UNE-EN ISO 527 - 4
Accelerated aging	3200 h.	UNE-EN-ISO 11507:2007	Very slight change barely perceptible
Resistance to impact and shock			Resistant. No break
Dry to the touch		At room temperature 20°	30 minutes
Drying between coats		At room temperature 20°	24 hours
Total drying		At room temperature 20°	48 hours
Yield		(variable in thickness)	1,8 - 2,0 Kg/m <sup>2</sup>
Application thickness			2-4 mm





# ECORK

PROJECTED CORK

[www.kilnher.com](http://www.kilnher.com)

GRUPO KILNHER manufactures and distributes projected natural cork with the ECORK brand nationally and internationally

**kilnher**<sup>®</sup>

## Factory - Logistics and Distribution

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