

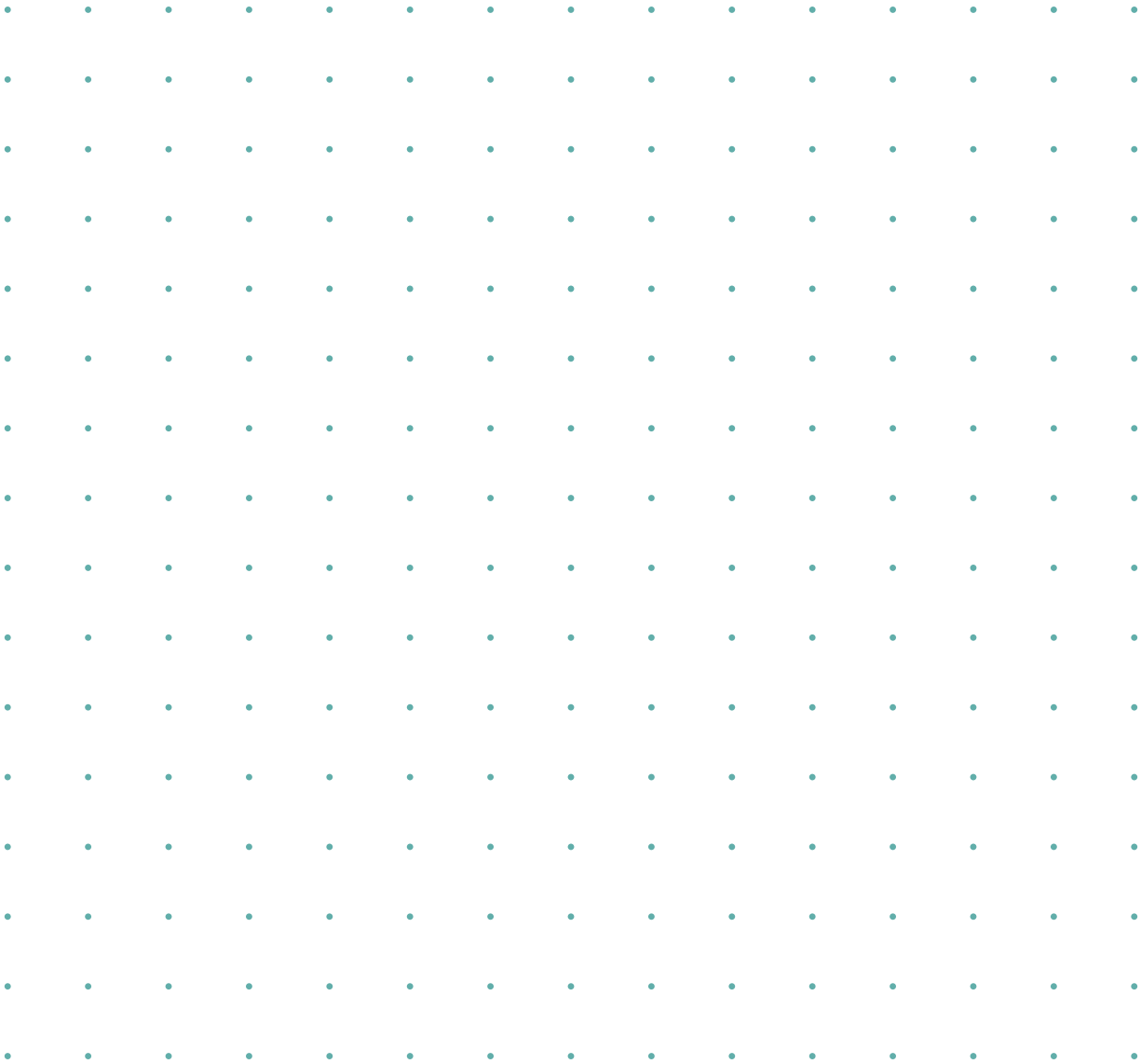
Hi-Tech Glass Filter Media

Anti-Compaction Technology®



NatureWorks
Maximum performance meets maximum efficiency





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Present in over **30 countries** and more than
150.000 filtration sites all over the world



Nature Works® has been **at the service of efficiency and technology applied to water filtering** since 2009, and can be found in home, public and industrial filtration sites around the world.

Our commitment to quality is backed by certifications such as **NSF and Bureau Veritas**, which guarantees Nature Works® product features, production processes and traceability, as well as the absence of free silica and biofilm.



Innovation as a Business Philosophy

We aim for constant improvement and innovation as our signature. That is why we have an I+D+i laboratory with all the latest technology to control the whole product and production process.



Self developed Hi-Technology equipment

Nature Works® is produced in Spain. This plant is one of the most advanced and Eco-Friendly for glass processing in Europe

Thanks to this, we obtain an extremely pure and controlled product, that makes Nature Works® one of the leaders in the filtration market.





What is Nature Works®?

It is the latest generation filter media based on virgin recycled glass, designed exclusively for water filtration.

Just by changing your current filter media for Nature Works® you will maximize every standard filter's performance.

What advantages does it achieve?

You will find noticeable advantages in:



PERFORMANCE



EFFICIENCY



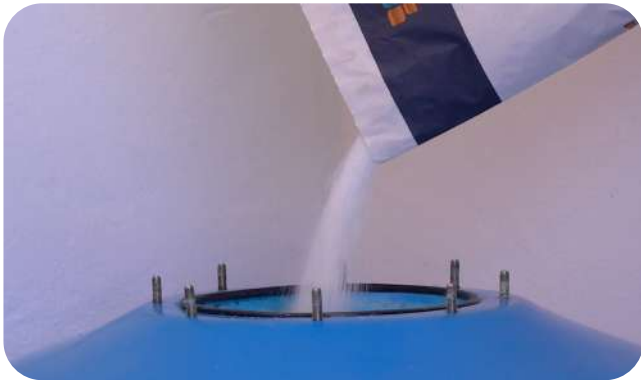
HYGIENE

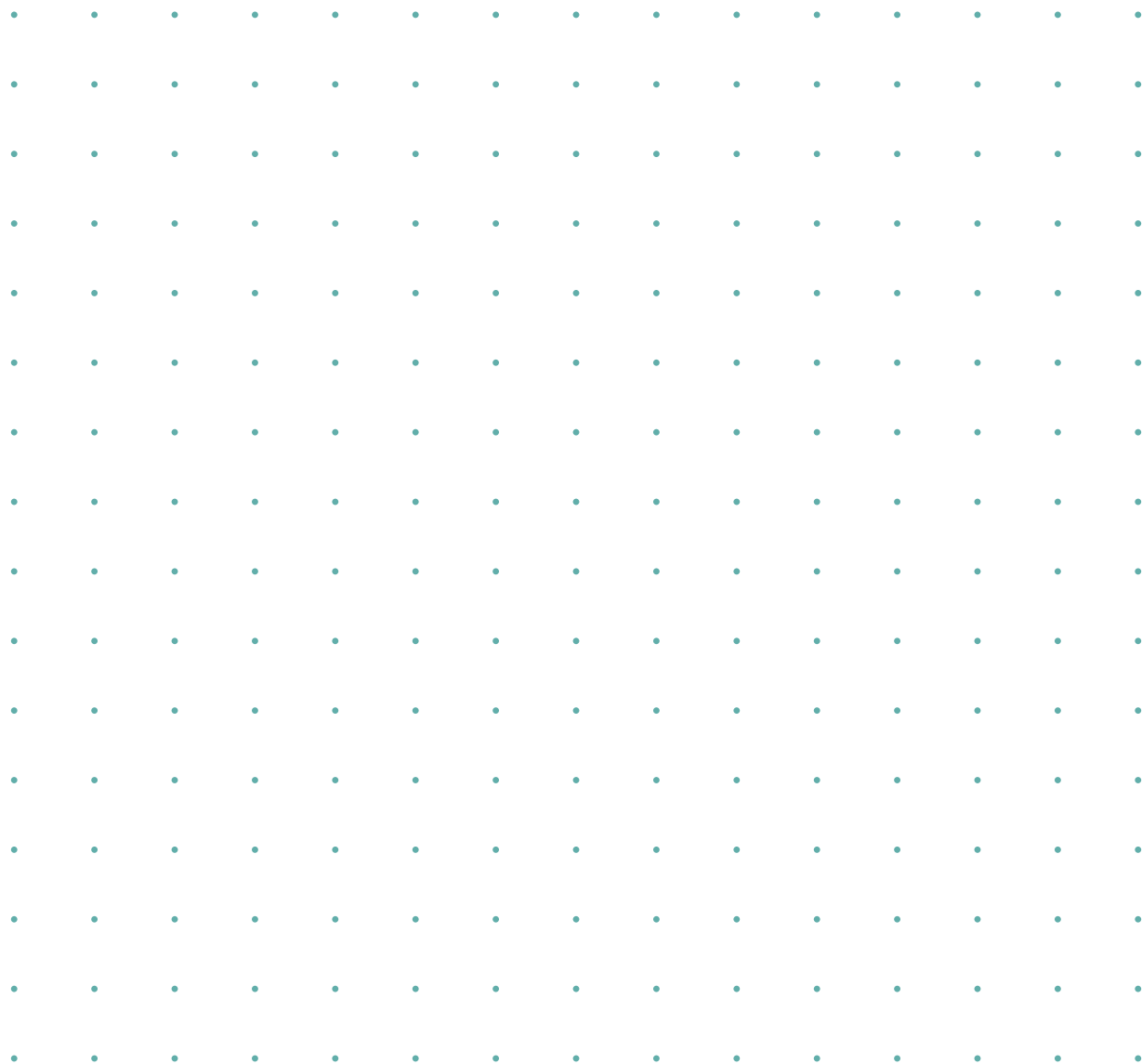


DURABILITY



SAFETY







PERFORMANCE

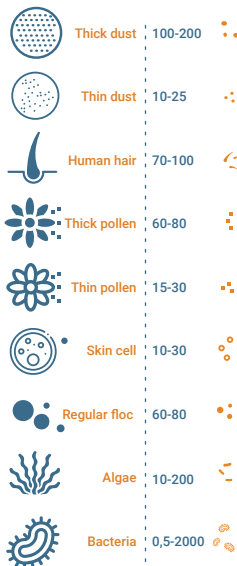


Maximum Filtration Performance

The efficiency of Nature Works® is based on the elimination of the most common particles you can find in a swimming pool that make the water go misty. This simultaneously maximizes savings and efficiency. **We achieve this thanks to a highly selected grain curve and to a surface treatment technology of the grains**, which allows us to avoid Biofilm, keep the microchannels open and make the particles totally safe to handle.

Typical particles in an outdoor pool in order of expected mass

Particle Type Size (µm.) Mass (%)



The utility of a filter media is determined by a compromise between micron rate and clogging capacity

Test conducted by laboratories:



99,64%
FILTRATION
PERFORMANCE
IFTS TESTED

COMPARATIVE RESULTS

AFM^{ng} 99,25%
ACTIVATED FILTER MEDIA

GLASS PEARLS 96,91%
Superior filter media

According to standard NF P 90319 4 - with derogations -
Test organized before a Notary. Download the full report in our website.



Energy Saving

The Anti-Compaction Hi-Tech® has been designed to keep the micro channels that form in the filtering mass open, so pressure loss is negligible. Thanks to this, the pump works more smoothly and therefore reduces its consumption:

IFTS test: RA_2020_00006470 Point 4.3
Filtration term: Pressure Drop
Technical term: Differential pressure filtering media (hPa.)
Calculation: INPUT - OUTLET Pressure

d Pressure: -45 hPa

IFTS test RA_2020_00006469 Point 4.3.
Filtration term: Pressure Drop
Technical term: Differential pressure filtering media (hPa.)
Calculation: INPUT - OUTLET Pressure

d Pressure: -110 hPa

IFTS test RA_2020_00007015 Point 4.3.
Filtration term: Pressure Drop
Technical term: Differential pressure filtering media (hPa.)
Calculation: INPUT - OUTLET Pressure

d Pressure: -93 hPa

145% More compared to Nature Works Hi-Tech

107% More compared to Nature Works Hi-Tech

Water saving

At the same time as we save energy, due to keeping the micro channels open, we also manage to save water as we reduce backwashing needs:

backwashing needs*

1 monthly

backwashing needs*

4 monthly

backwashing needs*

4 monthly

300% More compared to Nature Works Hi-Tech

300% More compared to Nature Works Hi-Tech

* According to manufacturer's recommendations



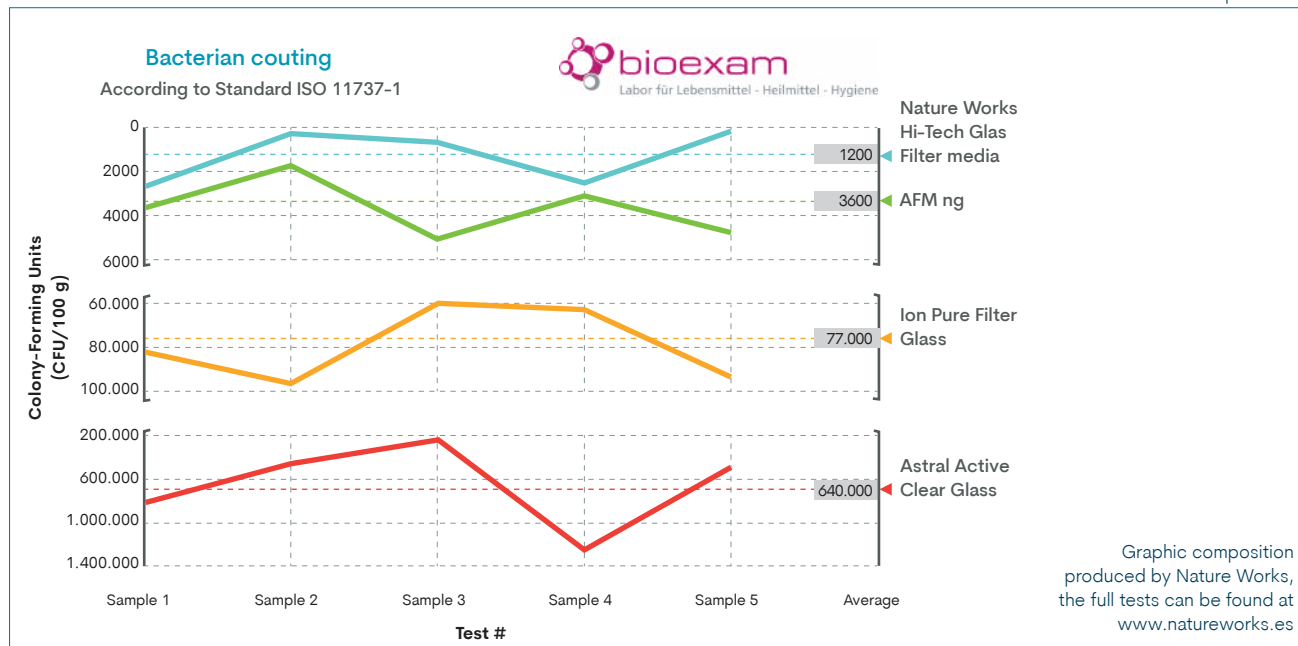
BIO-SECURITY

Tests by:
bioexam
 Labor für Lebensmittel - Heilmittel - Hygiene

Bio-Security is no longer just an option yet a professional responsibility

In an effort to keep users duly informed, we have gone to the Swiss labs Bioexam AG, who have proceeded to do a test battery of bacterial presence. This way we can check the different levels of Bio-Security of the most representative/outstanding brands on the market:

*Tests carried out on brand new products:



Nature Works® Hi-Tech Glass Filter Media stands out for having results **very close to zero bacterial presence**, offering the highest level available in terms of Bio-Security.

HYGIENE



Accredited Absence of Biofilm

The aseptic properties and the Anti-Compaction Technology® of Nature Works® avoid the formation of biofilm. This important characteristic is accredited by accreditation laboratories.

Biofilm is responsible for chloramines, clogging and channeling in the filter mass. With the use of Nature Works® you will find a difference straight away.

Certified Absence of Free Silica

The crystal silica is a compound mineral that can be found in rocks and sand and may be found in filtration sand. A long term exposure to this compound could lead to various lung problems.

Nature Works® avoids this hazard as it has no Free Silica in its composition. **Certified by Bureau Veritas** Certification number BV ES026775-A-CPI.





Anti-Compaction Technology®

Most of the filter medias available on the market come to the end of their useful life prematurely due to the effect of compaction (caking), a process where the segregation of fine and thick grains block the microchannels of the filtering mass

In order to avoid this result, Nature Works® has developed the Anti-Compaction Technology®, a precise selection of the calibre of the grain, designed to extend the useful life of the media indefinitely.



A single layer to achieve maximum durability

Nature Works® only needs a single layer, with only one grain size, to offer a maximum performance, unlike other filter media that require multiple layers of different grains to be effective.

This means Nature Works® can be used time and time again. In the case of having to be taken out for any reason, such as damage to the filter, you just take it out and reuse it in a safe and easy way.

SAFETY

Safety, a basic quality

Safety is a basic quality when it comes to products used for water treatment for human use. For this reason at Nature Works® we subject our glass to an advanced micro grinding to eliminate sharp and cutting edges.

With this process we obtain a glass that is harmless and completely safe to handle.



Certifications, Accreditations and Tests

Nature Works® properties are backed by Bureau Veritas Certifications and by Biofilm Absence Accreditation. We guarantee the highest quality standards in all of our production batches by carrying out a thorough control of the whole production process:

IFTS laboratories testings



- 99,64% Filtration Performance
- Energy and water reduction



Accredited Absence of Biofilm

Certificate N° ES026775-CPI



- Product features
- Traceability
- Whole production process control
- Absence of Free Silica

Certificate N° ES026775-A-CPI

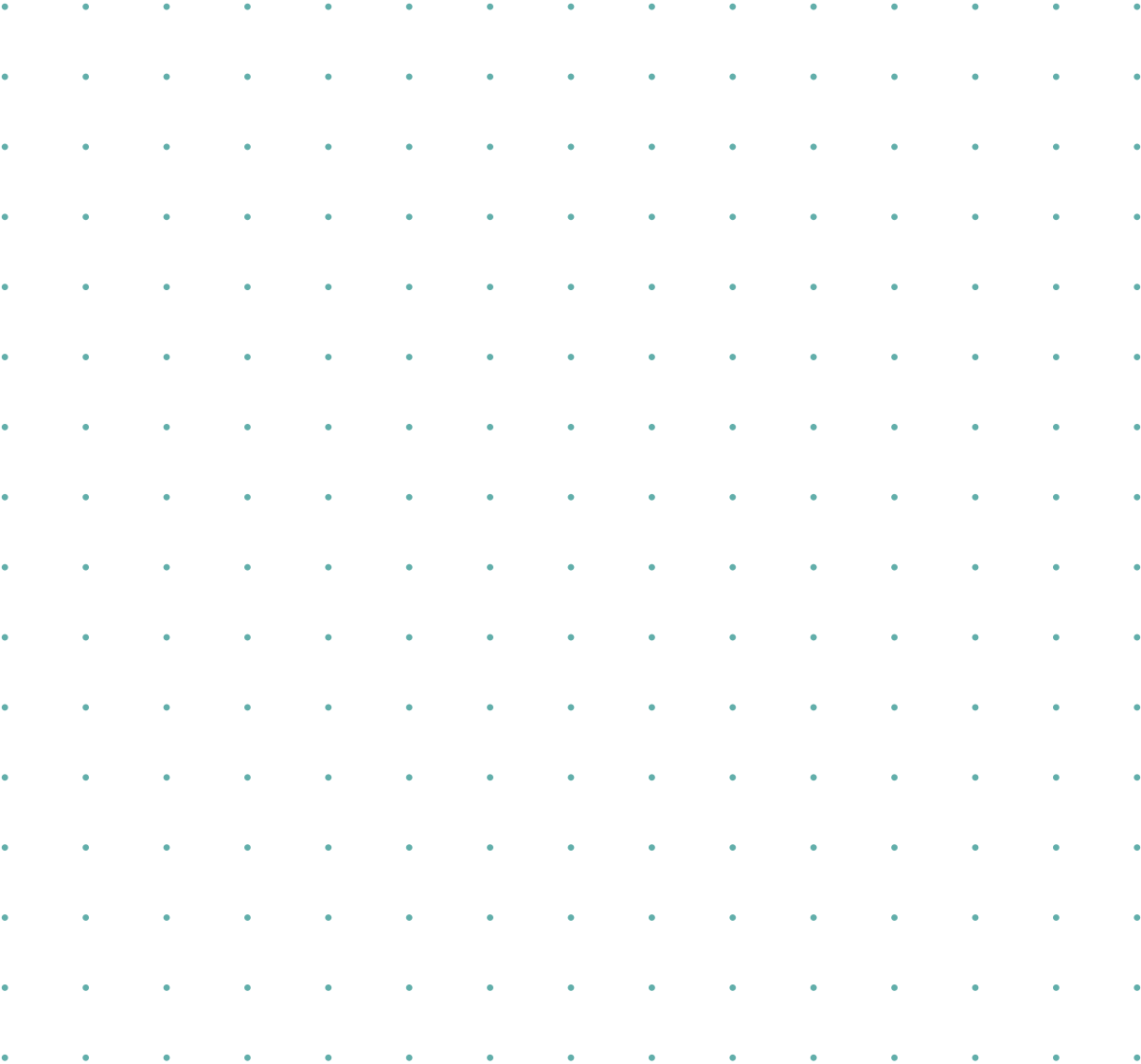


- Fresh Water Treatment authorization according to UNE EN 12.904 normative

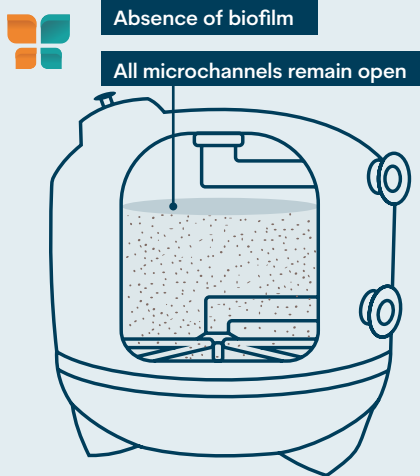


NSF/ANSI/CAN
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Equipment and Chemicals for Swimming Pools Certification

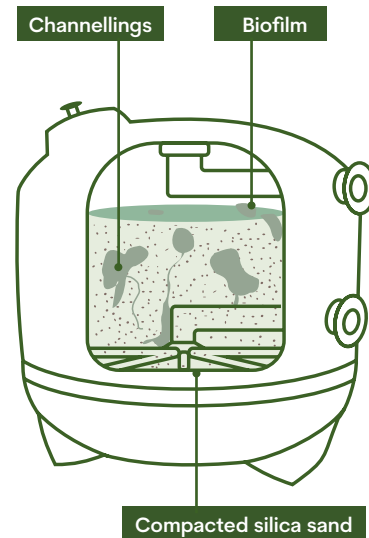


Advantages of Nature Works® over silica sand



Advantages of Nature Works®

- Absence of Free Silica Bureau Veritas Certified.
- Accredited Absence of Biofilm
- Extreme durability
- Minimum energy, chemicals and water consumptions.
- High filtration quality
- Negligible loss of pressure



Disadvantages of silica sand

- Free silica presence
- It becomes bio-hazardous due to biofilm presence
- Limited durability
- High chemicals, water and energy consumptions
- Preferential channeling presence that reduces filtration quality
- High pump pressure

Nature Works® over other glass for filtration: origins



Origin of Nature Works®



Origin: virgin glass obtained from flat glass. **Bacteria & Contaminant free.**

It is **recycled brand new glass**, that has never been transformed nor in touch with urban waste.



Origin of all other glass for filtration










Origin: Bottles, jars, pieces of glass from urban glass banks and urban waste

Expected contaminants: pathogens, ceramic, plastic, lab materials, metals, light bulbs, fluorescent tubes...

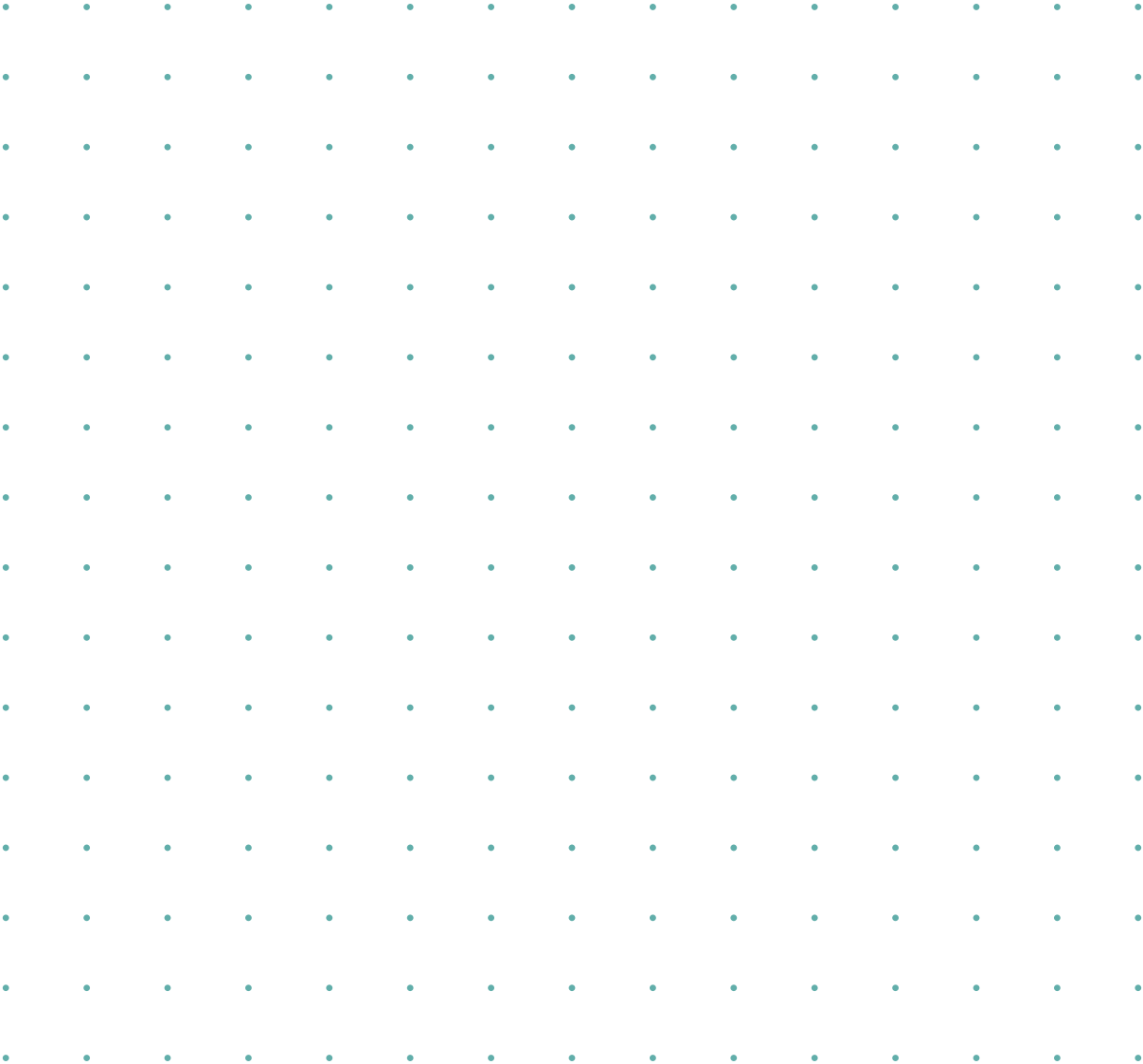


Comparative table over competitor glasses

	 <div> Specially developed for water treatment for human use </div>	Other Glasses <div>Used as filter media</div>
 <div>PERFORMANCE</div>	<ul style="list-style-type: none"> Maximum filtration performance: 99,64% Accredited Absence of Biofilm Reduction of the levels of chloramines & THMs Fresh Water Treatments Certification. 	<ul style="list-style-type: none"> Different results.* No accreditation of absence of biofilm. Absence of certification for Fresh Water Treatments.
 <div>EFFICIENCY</div>	<div>Significant reduction in the consumption of:</div> <ul style="list-style-type: none"> Energy proven by IFTS tests Water Chemical products 	<ul style="list-style-type: none"> Less savings in all fields.
 <div>BIO-SECURITY</div>	<ul style="list-style-type: none"> Guaranteed bacteria, pathogens & any other contaminants free Nature Works® has a purity level of 99,999% or higher, certified by Bureau Veritas 	<ul style="list-style-type: none"> Expected presence of bacteria, pathogen and other contaminant Absence of purity degree certification of any kind.
 <div>DURABILITY</div>	<ul style="list-style-type: none"> The Anti-Compaction Technology® allows an unlimited lifespan and being able to use a single layer makes it possible to be re-used indefinitely. 	<ul style="list-style-type: none"> Multiple layers needed, limiting its lifespan in the case of having to fix the filter. Not reusable.
 <div>SAFETY</div>	<ul style="list-style-type: none"> Micro polished particle free of sharp edges and pores. Completely safe to handle. 	<ul style="list-style-type: none"> Hazardous edges when it comes to handling, especially during installation and removal.
 <div>Verpackung</div>	<ul style="list-style-type: none"> Environmentally friendly recyclable packaging. Made from paper with FSC certificate. 	<ul style="list-style-type: none"> Plastic as main packaging material.

* Its performance depends on the manufacturing batch, because of an uncontrolled grain curve.
 Our grain curve is perfectly controlled, even each fraction is strongly defined following the requirements of the Anti-Compaction Technology®

Our Bureau Veritas Certification of Product, Whole-Production-Process & Traceability, allow us to guarantee our products features



Frequent Asked Questions

How much Nature Works® glass will I need for my filter?

Nature Works® takes up more space than silica sand because of its particle density difference and its Anti-Compaction Technology®, therefore you will need 20% less than the amount recommended by the manufacturer on the filter instructions.

Why does Nature Works® offer **better results than silica sand** ?
(see page 16)

Silica sand loses its filtration capacity in a short period of time due to the growth of biofilm (bacterial colonies) between its grains, which creates preferential channels and clogging.

The absence of biofilm plus Anti-Compaction Technology® makes Nature Works® one of the most efficient filter medias on the market.

Is Nature Works® compatible with all filters?

Yes, all standardized filters allow the use of Nature Works®, If your filter does not have the worldwide harmonized nozzle opening size [0,35 +- 0,015 mm], we recommend you change the nozzles for standard ones.



Why does Nature Works® only need one layer?

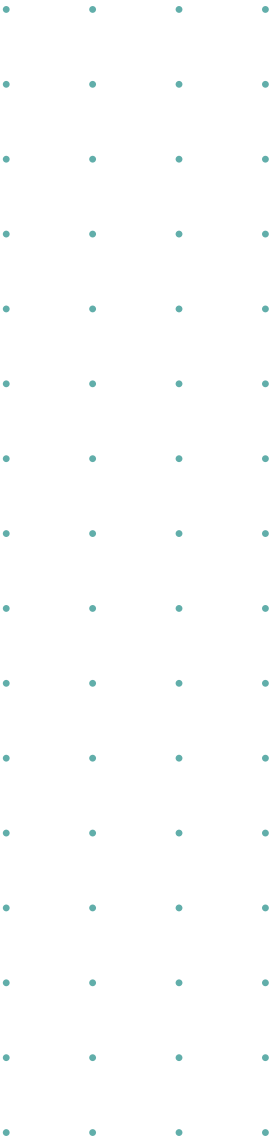
The combination of layers with different sized grains inside the filter is needed when the filter media has not Anti-Compaction Technology®, in order to delay clogging and be able to do a correct backwashing.

Thanks to its High-Calibrated filter media grain curve, Nature Works® does not need different layers in any kind of filter. This also ensures an indefinite shelf life.

Why is Nature Works® transparent?

Nature Works® has been designed and produced specifically for use in water filters. To ensure maximum purity only virgin glass is used, it's the only glass with controlled origin and guaranteed not to have been in touch with bacteria or any other contaminating materials.

Unlike other glass filter media, it does not come from urban glass banks and therefore is the only one suitable for water filtration for human consumption.



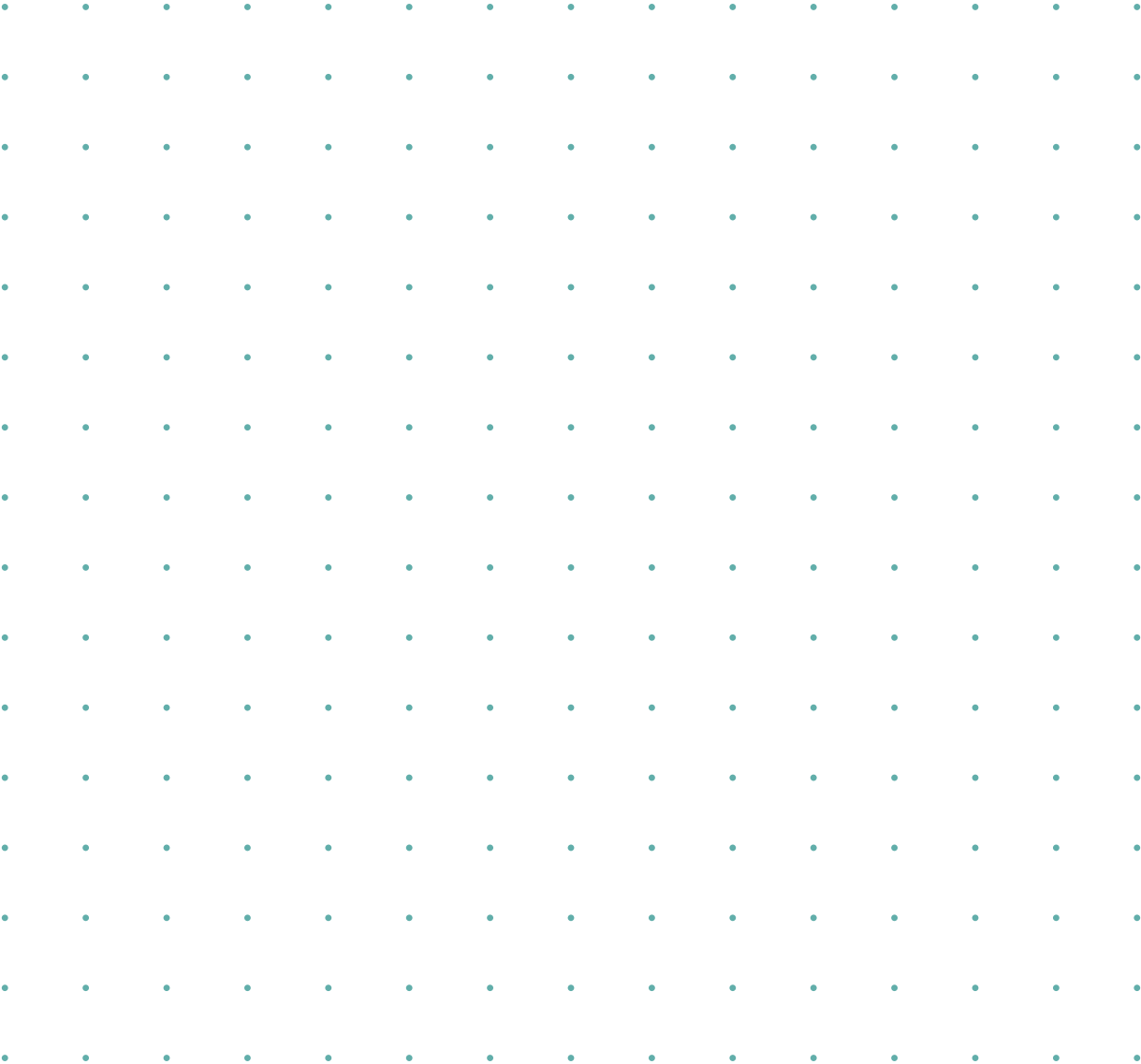
Is **colored glass** just as efficient as the transparent one?

Glass obtains its color when its being manufactured due to different chemicals, metals and oxides being added to achieve each color. As it is encapsulated at a molecular level, this does not change any of the glass properties, nor does it affect the filtering process. However, as the glass used for the colored filter media comes from glass banks, not directly from the manufacturer, it may have all sorts of bacteria and contaminants that can end up in the water, which makes it risky to use in water filters for human consumption.

In which sectors may Nature Works® be used?

Thanks to its advantages and technical characteristics Nature Works® is now used in over 100.000 installations all over the world. Used mainly in:

- Private pool
- Public pool
- Advanced industrial installations such as purification plants, water parks, nuclear installations, desalination plants and aquaculture circuits among others.



NatureWorks®

GLASS FILTER MEDIA



Learn more:

www.natureworks.es