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Yonaguni Coral

100% natural fossilized coral from Yonaguni Island

Yonaguni coral Water filtration media
- DONAN



Yonaguni Coral water filtration media - DONAN



◆ What is the Yonaguni coral yielded only in Yonaguni Island, Japan ?

The Yonaguni Coral produced in Yonaguni Island appeared one hundred thousand years ago by the tectonic uplift. Thus, the stony corals of a very young age were fossilized. The Yonaguni coral mined keeps a state of the generation time, meaning a porous structure of corals are retained with high purity.

Mineral analysis of water filtration media DANAN (per 1g)					
Calcium	Ca	372mg	Manganese	Mn	0.00177mg
Magnesium	Mg	6.39mg	Zinc	Zn	0.00086mg
Potassium	K	0.0482mg	Selenium	Se	0.36μg
Sodium	Na	0.128mg	Chromium	Cr	0.16μg
Phosphorus	P	0.00185mg	Molybdenum	Mo	0.074μg
Iron	Fe	0.62mg	Sulfur	S	1.29mg
Iodine	I	14.2μg	Cobalt	Co	0.00019mg
Copper	Cu	0.00228mg	Chlorine	Cl	0.21mg



Yonaguni coral water filtration media – DONAN Features

Features

1. Yonaguni coral has more than 70 kinds of marine minerals and it makes water tasty.

The main component of Yonaguni coral is calcium carbonate and also it contains essential minerals necessary for human health in the natural balance, such as magnesium, sulfur, potassium, iron, iodine, copper, manganese, zinc, selenium, cobalt, chromium, molybdenum etc. These minerals make water tasty.



2. The filtration material is made of high purity Yonaguni coral.

In general, the ancient Ryukyu lime stone and coral sands taken from the sea bottom contain shell fragments, fish bone and spines of sea urchins. But those are not contained in Yonaguni coral itself. Yonaguni Coral consists of coral skeletons, making pure water filtering material.

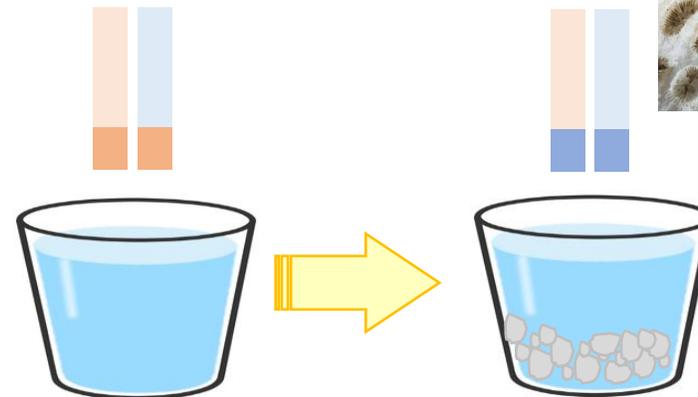
3. The porous structure adsorbs impurities.

Yonaguni Coral absorbs impurities like pesticide residue, heavy metal ions and bacteria by its porous structure.



4. Making alkaline drinking water.

Yonaguni Coral filter media make alkaline drinking water from acidic-trend drinking water.



Yonaguni coral water filtration media – DONAN Tests & results

pH test

- ① Put 20g of fossil coral grains into 1 L of tap water and purified water then stirred 1 minute.
- ② Measured pH both after 1 hour. pH measured by Glass electrode method.

pH test result		
Items	Purified water	Tap water
Criteria water	6.5	7.9
With Yonaguni coral	9.7	8.8

Okinawa environmental conservation laboratory test report (August 18, 2009)

Mineral dissolution test

- ① Put 20g of fossil coral grains into 1 L of purified water and stir for 1 minute.
- ② Measure concentration of eluted mineral after 1 hour.
- ③ Concentration of eluted mineral is measured by atomic absorption spectrophotometry.

Mineral dissolution test result		
Items		Yonaguni coral grain dissolution mineral concentration (mg / L)
Calcium	Ca	5.04
Magnesium	Mg	0.05
Sodium	Na	0.50
Potassium	K	0.03
Total hardness		12.8



Yonaguni coral water filtration media – DONAN Tests & results

Heavy Metal Ion Removal Test

【Objectives】

To determine the heavy metal ion removal (adsorption) capabilities of our fossil coral filter material, we analyze treated water after various heavy metal ion-containing solutions pass through a filter-packed column.

【Test Solution Preparation】

Our raw water sample was prepared as a mixed solution containing 5 mg/L of various heavy metals: Cadmium (Cd), Copper (Cu), Lead (Pb), Iron (Fe), Nickel (Ni), Zinc (Zn), Arsenic (As), and Chromium (Cr). This involved carefully diluting standard stock solutions of each metal (either 1 mg/L or 0.1 mg/L, prepared per JIS KO102 guidelines) in a 1-liter volumetric flask.



【Column Preparation】

Our glass column, measuring 350mm in length and 20mm in diameter, was prepared by placing a small amount of glass wool at the bottom. We then filled it with 100g of fossil coral filter material (sized 0.6–2.4mm), creating a 300mm packed bed.

【Test Method】

Our testing involves saturating the fossilized coral filter column with raw water and allowing it to settle for 30 minutes. We then collect the treated water at a flow rate of 3 ml/minute. By analyzing the heavy metal concentrations in this treated water and comparing them to the initial raw water, we determine the adsorption capacity (removal efficiency) of the filter.

Test Result

Heavy metal ion		Raw water	Removing solution	Removing rates
Cadmium	Cd	5.00 mg/l	0.002 mg/l	99.96 %
Copper	Cu	5.00 mg/l	0.007 mg/l	99.86 %
Lead	Pb	5.00 mg/l	0.024 mg/l	99.52 %
Iron	Fe	5.00 mg/l	0.065 mg/l	98.70 %
Nickel	Ni	5.00 mg/l	0.165 mg/l	96.70 %
Zinc	Zn	5.00 mg/l	0.348 mg/l	93.04 %

Environmental Measurement Center, Kounoshima Kasei Co., Ltd.

Yonaguni coral water filtration media – DONAN Specifications & others

Specifications

Aspect	Tasteless and odorless, Milky white, Granular
Calcium	35% or more
Dry weight	1.0% or less
Arsenic (as As)	2µm/g or less
Heavy metals (as Pb)	2µm/g or less
Total plate count	3000cfs/g or less
Coliform bacteria	Negative
Yeast and mold count	100cfs/g or less

Packaging

Net 20kgs	Inner packaging: Polyethylene bag Exterior package: Cardboard box
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Others

Use	It is useful for improving quality of drinking water in factories or at home. It is good for office water purifiers, pot type purifiers, etc.
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Particle size

0.6 ~ 2.8mm	(more than 90%)
2.8 ~ 5.0mm	(more than 90%)
5.0 ~ 7.0mm	(more than 90%)
5.0 ~ 13mm	(more than 90%)

