Boegger Industrial Limited

Boegger Industrial Limited was established in 1998 and specialized in producing and exporting copper alloy meshes. We have 4 mature production line for effective production. Advanced equipment and skilled workers help reduce production loss and costs.

Our copper alloy meshes are distributed more than 30 countries for different use and applications. And all of these are gain customers' trust and we established long term cooperation with them.

Our newly researched copper alloy aquaculture mesh can solve biofouling, high maintenance cost and low fish output problems.

Aquaculture Mesh

Copper Alloy & Polyester

Boegger Industrial Limited

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Copper Alloy Mesh – BD06

Anti-Fouling & 100% Recycled

BD06 copper alloy mesh is specially designed for aquaculture applications.

The specially designed copper alloy wire has easy rolling and folding structure, which is flexible and convenient for transporting and assembly.

This copper alloy mesh for aquaculture has more than 7 years long lifespan.

BD06 Copper Alloy Mesh Specifications

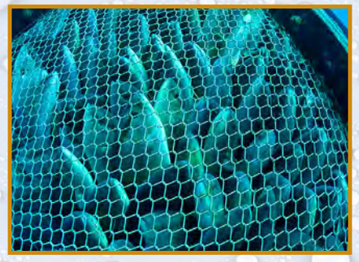
Popular Sizes	
Wire Diameter	Mesh Opening (A)
2.0 mm	20 × 20 mm
2.5 mm	25 × 25 mm
3.0 mm	30 × 30 mm
3.5 mm	35 × 35 mm
4.0 mm	40 × 40 mm
4.5 mm	45 × 45 mm
Customized Length & Width	

Chemical Composition				
Alloy	Cu	Sn	Al	Zn
BD06 Copper	66.0	0.6	0.6	Rem.

Mechanical Properties					
Alloy	Wire Diameter	Temper	Hardness (HRB)	T/S (N/mm^2)	E/L (%)
BD06 Copper	4.0 mm	1/8 H	54	440	22

Data Shows Benefits

- SGR: 15% increase
- Labor hours/tonne: 79% reduction
- Mortality: less than 4%
- Feed use: 10% reduction
- Predator attacks: down to < 0.1%
- On-site energy use: 15% reduction
- FCR: 15% improvement
- Antibiotics: 31% reduction

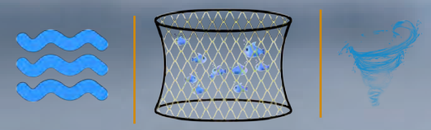


Why Choose Copper Alloy Aquaculture Mesh?

Compared with traditional fish cage, copper alloy aquaculture mesh features no climate limitation and worldwide application.

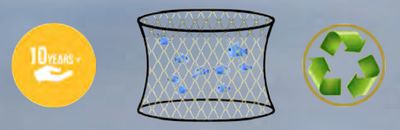
They can defend predators, improve fish yields and will not harm to the fish health and water environments.

Extremely long service life and less maintenance costs make fully profits for customers.



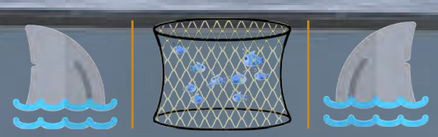
Defend waves & Maintain cage volumes

Highly durable and stable structure help to defend waves and currents.
Stable structure can prevent fish crowding and improve yields.



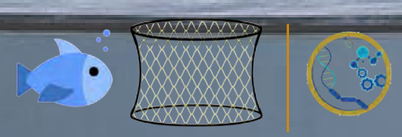
Long Life & Fully Recyclable

Copper alloy aquaculture mesh supplies extended cage life for at least 10 years.
It can be recycled fully for the production of new placement.



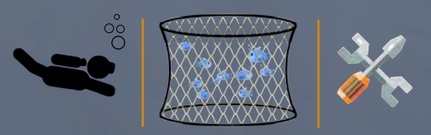
Prohibits predation and keeps enclosure

The warning color can deter predators attacks.
Strong structure keep farmed fishes in and prevent escaping.



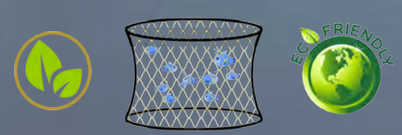
Anti-Microbial & Anti-Fouling

Slowly releasing copper ions with slight toxicity can inhibit algae growth to reducing the attachments on the net cage.



Maintenance Free

Because of excellent anti-fouling performance, it need few inspections, repairs and cleaning during its long lifespan and it can save the overall costs.



Environmentally Friendly

It can substantially improve farming environments with less biofouling. Additional, it will not release harmful elements to environments and fish.

What Can Copper Alloy Mesh Offer for You?

Economical Benefits

Lower your maintenance costs

- Less maintenance frequency thanks to reduced bio-fouling.
- Less maintenance cost thanks to reduced maintenance frequency.
- Less net handling thanks to directly cleaning in the water.
- Less replacement cost thanks to much longer service life.

Large fish output/yield

- More fishes in same size cage thanks to good volume maintenance.
- Higher quality fishes thank to good prevention of disease and pests.
- Larger fishes thanks to neat meshes and smooth water flow and improved oxygen level.
- Less disease and mortality thanks to reduced bio-fouling.
- No chance of injury or escape thanks to high mechanical stability.

Wide range of application

- High value fishes.
- Large or small size fishes.
- Fresh water farming.
- Marine fish farming.

Environmental Benefits

- Reduce damage to local species from escaping farming fishes.
- No extra anti-fouling coating to reduce water pollution.
- Less maintenance reduces energy & exhaust emission caused by motor boat.
- Slowly released copper ion has no pollution to the fishing areas.
- Improved aquaculture condition through increasing water flow & oxygen level.
- 100% recycled after more than 10 years of lifespan.
- In avoid of incineration and reduce CO_2 release.

More Aquaculture Solutions...

Copper alloy aquaculture mesh is best solution to a wide range of species both land based and ocean cages. Here are several examples.

Acipencer sp.

Rachycentron canadum

Oncorhynchus mykiss

Salmo salar

Dicentrarchus labrax

Salvelinus alpinus

Coregonus lavaretus

Sparus aurata

Gadus morhua

Ctenopharyngodon idella

Cyprinus sp.

Sander lucioperca

Hippoglossus hippoglossus

Psetta maxima

Solea solea

Pangasius sp.

Thunnus thynnus

Oncorhynchus kisutch

Seriola sp.

Oncorhynchus tshawytscha

Oreochromis niloticus

Haliotis sp.

Lates calcarifer

Litopenaeus vannamei

Ctenolabrus rupestris

Labrus bergylta

Penaeus monodon

Anarchicas minor

Holothuria sp.

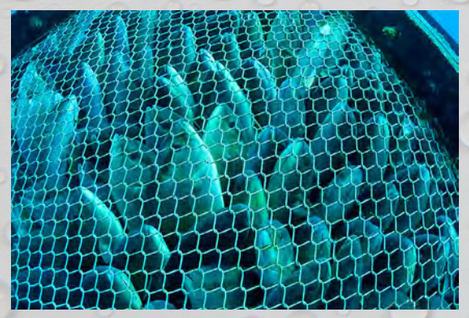
Scotland – Cylinder Cage

- Site: West Coastal of Scotland
- Problems: Predators attack and high maintenance cost
- Sizes:
  - Wire diameter: 2.8 mm
  - Mesh size: 50 × 50 mm
  - Net size: 100 meters diameter and 10 m depth
- Requirements: Four side net for fish farming and bottom net for collecting dead fish fry
- Quantity: 1800 m^2

Norway – Salmon Farming

- Site: Trøndelag of Norway
- Problems: High maintenance cost and high death rate
- Sizes:
  - Wire diameter: 3.0 mm
  - Mesh size: 50 × 50 mm
  - Net size: 12 m width and 820 m length
- Requirements: Free combination and easy installation
- Quantity: 9840 m^2

Korea – Red Satin Fish Farming



- Site: Korea.
- Problems: Low output and high replacement costs
- Sizes:
  - Wire diameter: 2.5 mm
  - Mesh size: 25 mm
  - Net size: 30 meters diameter and 15 m depth
- Requirements: Free combination and easy installation
- Quantity: 28260 m^2

Copper Alloy Mesh – BD33

Ideal for Inshore Aquaculture

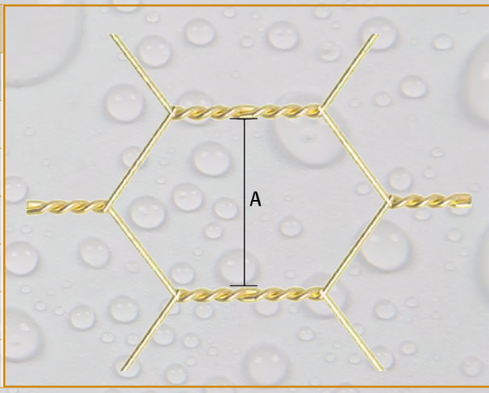
BD33 copper alloy mesh is an alternative to BD06 copper alloy mesh. It has same chemical and physical properties with BD06.
Compared with BD06, the BD33 is not as strong as BD06, but it has lighter weight and lower material cost then BD06. So it is ideal for the inshore and land based cage farming for mild fish species.

Where is BD33 used for?

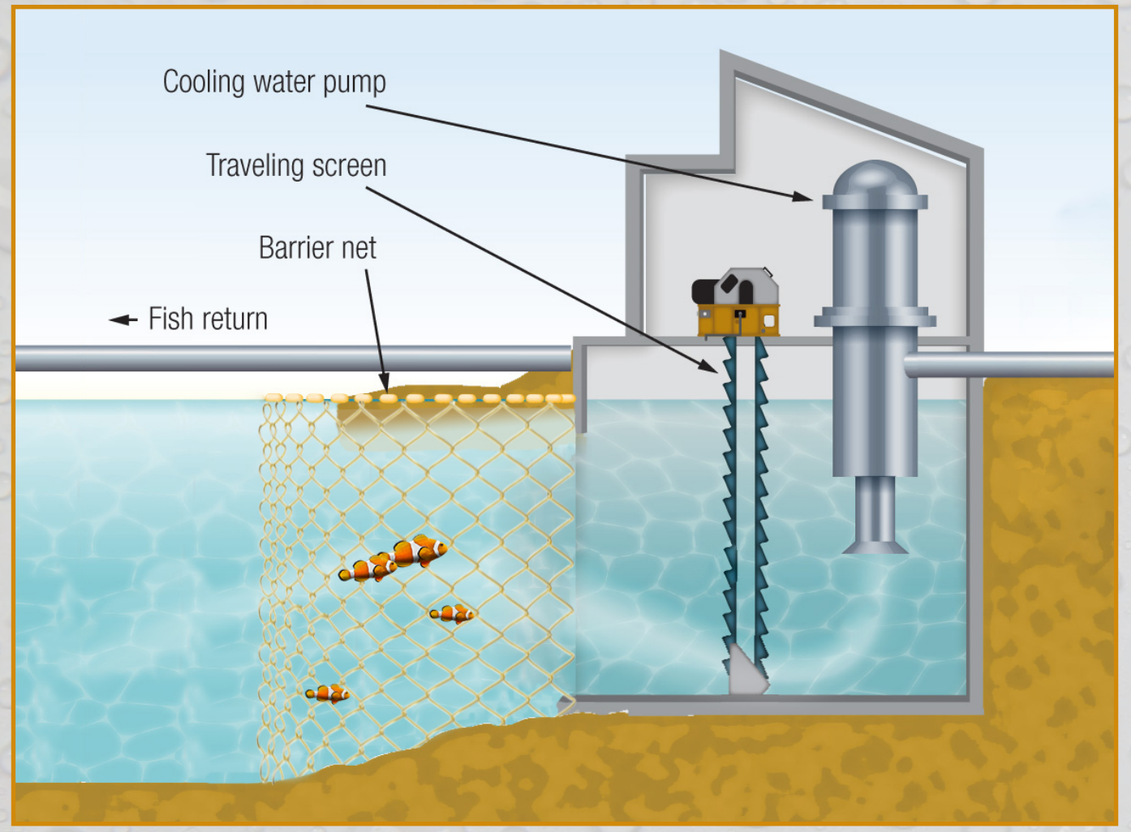
- Light cage farming
- Silent inshore aquaculture
- Land based cage farming
- Mild fish species farming

What sizes you can choose?

Mesh Size (A)	Wire Diameter	Max. Width
12.7 mm (1/2")	0.51 mm (25#)	1.5 m (4.9')
15.9 mm (5/8")	0.62 mm (23#)	3 m (9.8')
25.4 mm (1")	0.91 mm (20#)	3 m (9.8')
25.4 mm (1")	0.81 mm (21#)	3 m (9.8')
30.5 mm (1.2")	1.01 mm (19#)	3 m (9.8')
30.5 mm (1.2")	0.91 mm (20#)	3 m (9.8')



Anti-Fouling Copper Mesh



In recent years, with the changes of coastal marine ecological environments, the nuclear power plants are troubled with water intake blocking by sea creatures and floating objects. Water intake blocking may affect the normal running because of the lack of cooling waters. So we must solve these problems.

Nowadays, most of the water intake of nuclear power plants are set intercepting net (nylon net), but it has few improvements due to the nylon net is easily attached and corroded by sea creatures during use, and the whole net is cleaned and repaired every for few months.

After developing the technologies, we find the anti-fouling copper mesh can solve these problems.

This anti-fouling copper mesh adopts high quality copper alloy steel wires contained copper, zinc, tin, nickel, bismuth and other elements. When using, it can slowly release heavy metal ions, which can avoid marine organisms on the net. And self-cleaning structure is low maintenance costs and labor saving.

Functional Stability

Low function stability	***Low function stability***
● Excellent anti-fouling, anti-corrosive and anti-adhesion performance. ● Stable permeable rate and ≤ 5% adhesive rates. ● 82 MPa tensile strength for durability and low strength reduction during 10 years using period.	● Severely blocked. Clog – clean – re-clog – re-clean. ● Unstable permeable rate and ≥ 50% adhesive rates. ● High strength reduction during short several months.

Maintenance Efficient

Low daily maintenance	***High daily maintenance***
● Fewer daily maintenance costs and labor during more than 10 years using period.	● Daily inspection and cleaning. ● 1–2 times cleaning each year and 1–2 months per cleaning period.

Applicability

Perfect applicability	***Low applicability***
● Soft and flexible structure. ● Rolling, folding and easy transporting. ● Flexible and easy assembly & disassembly at different places and sizes.	● Soft and flexible structure. ● Easy installation. ● Hard disassembly due to the self weight plus a dozen or even dozens of marine adhesion.

Operating Costs

Low operating costs	***High operating costs***
● High original material costs. ● Less daily maintenance costs. ● No replacement during 10 years.	● Low original material costs. ● Expensive maintenance costs. ● At least 3 times replacement during 10 years.

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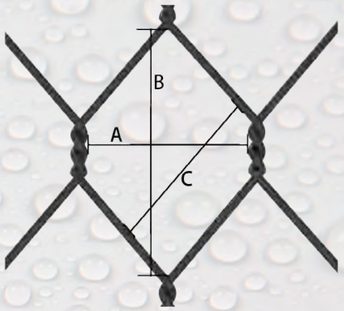
PET Aquaculture Mesh

Semi-Rgid & Lightweight to increase yield

Made from PET (Polyethylene Terephthalate) monofilaments, **PET aquaculture mesh** is woven together to form a tough, high tensile strength and structurally stable hexagonal mesh.

Available Mesh Type & Sizes		
	Small Mesh	Large Mesh
Wire Diameter (mm)	2.0	2.5
A (mm)	50	30
B (mm)	75	45
C (mm)	60	35
Mass Per Unit Area (g/m^2)	570	590
Tensile Strength (kN/m)	> 40	> 45
Roll Width (m)	1.6	2
Roll Length (m)	100	100



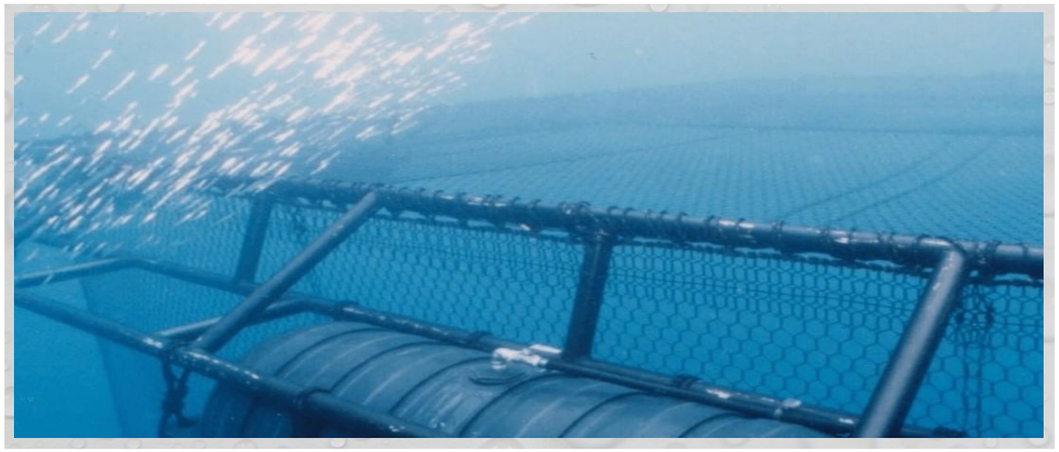
Available Colors

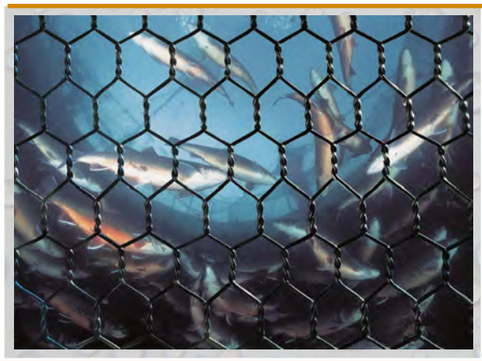

Transparent

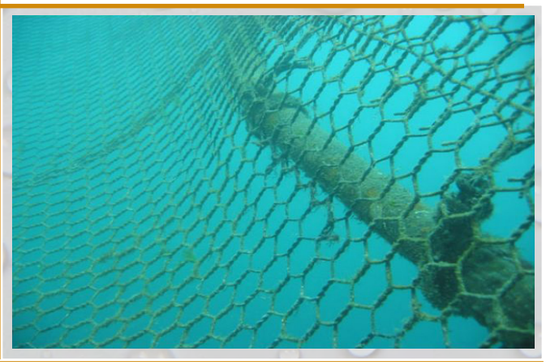

Black

Benefits of PET Aquaculture Mesh

- More than 14 years of superb long lifespan.
- Less maintenance costs thanks to low total wetted surface area and low water drag resistance.
- Reduced fish escaping risk due to semi-rigid structure and unraveling properties.
- Resistant to predator attacks thanks to strong PET monofilament and semi-rigid and tightly stretched net walls.
- Increased yield thanks to maximum water flow and safer conditions.
- No deformation even in strong currents thanks to stiffer mesh and net wall.
- Easier and safer handling thanks to light weight and low water drag resistance.

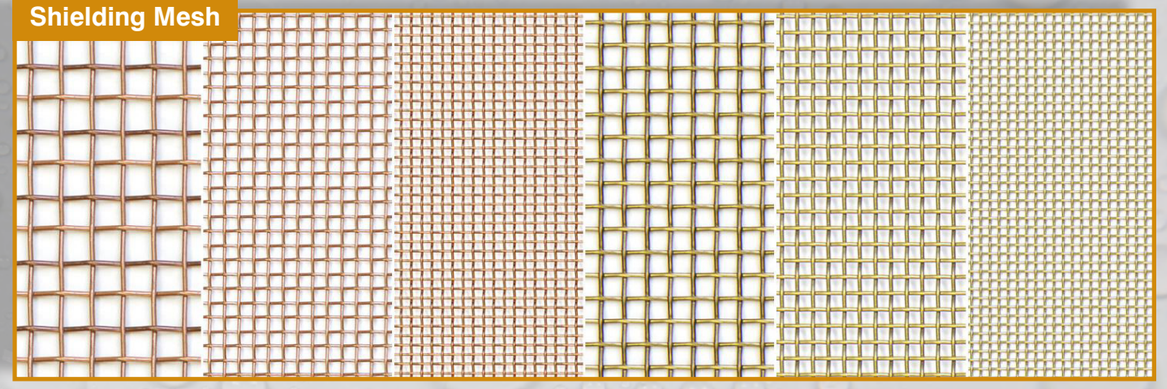




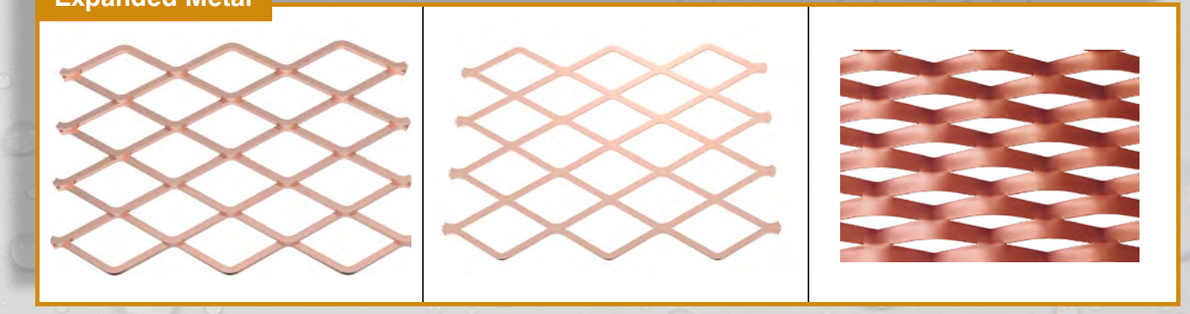


More Copper Meshes We Can Supply

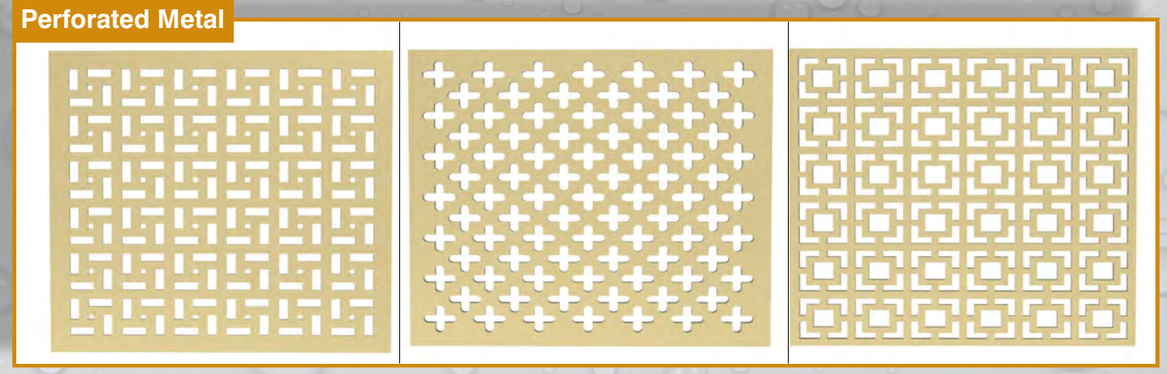
Shielding Mesh



Expanded Metal



Perforated Metal



Knitted Mesh