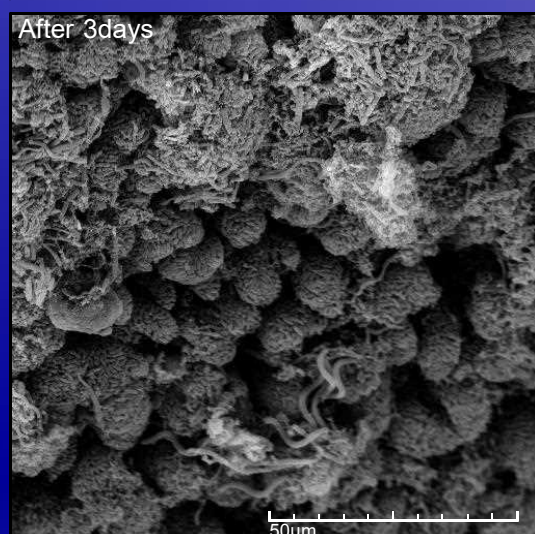
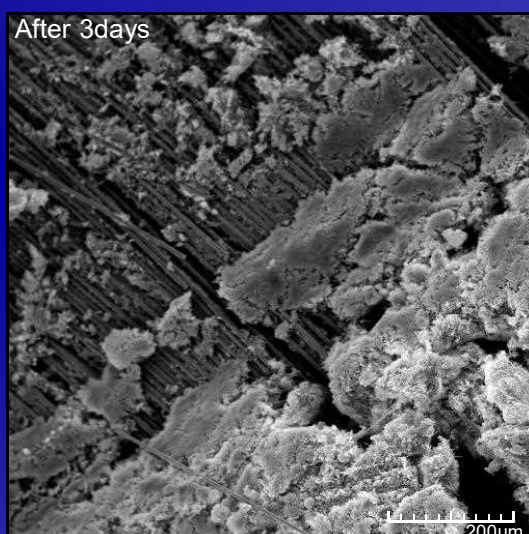
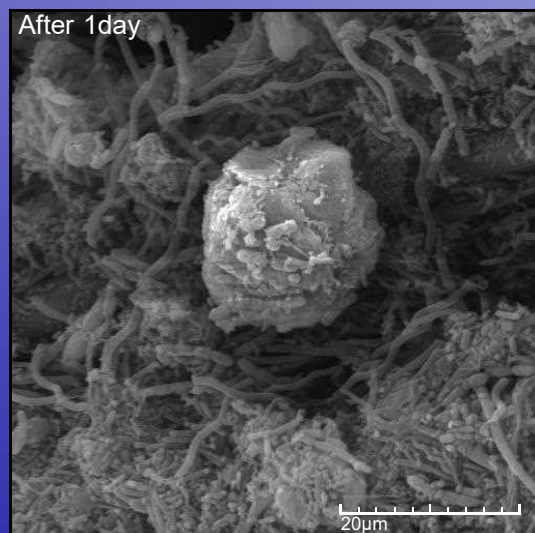
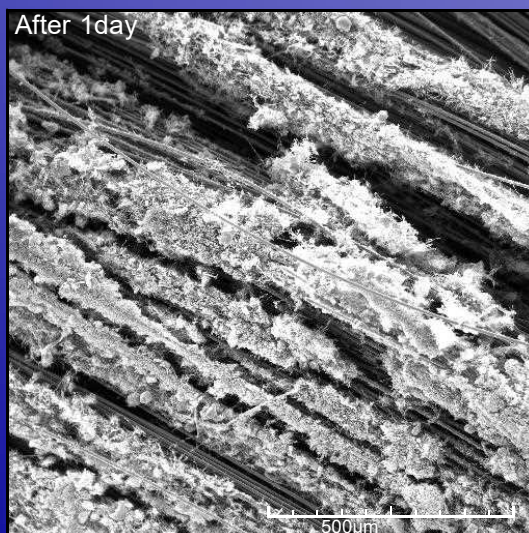
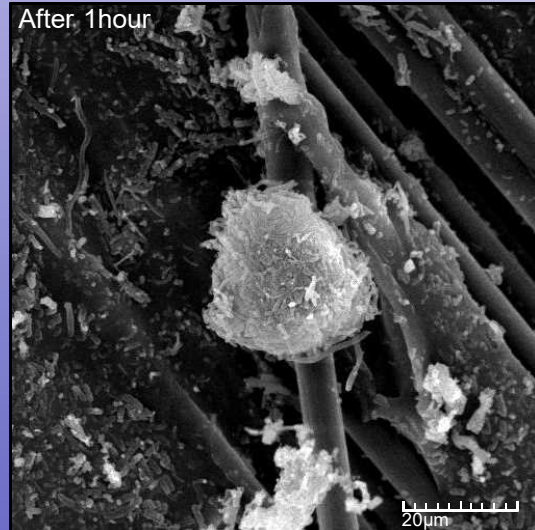
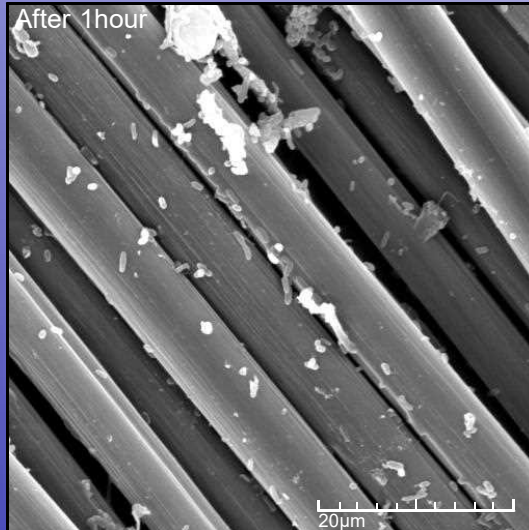
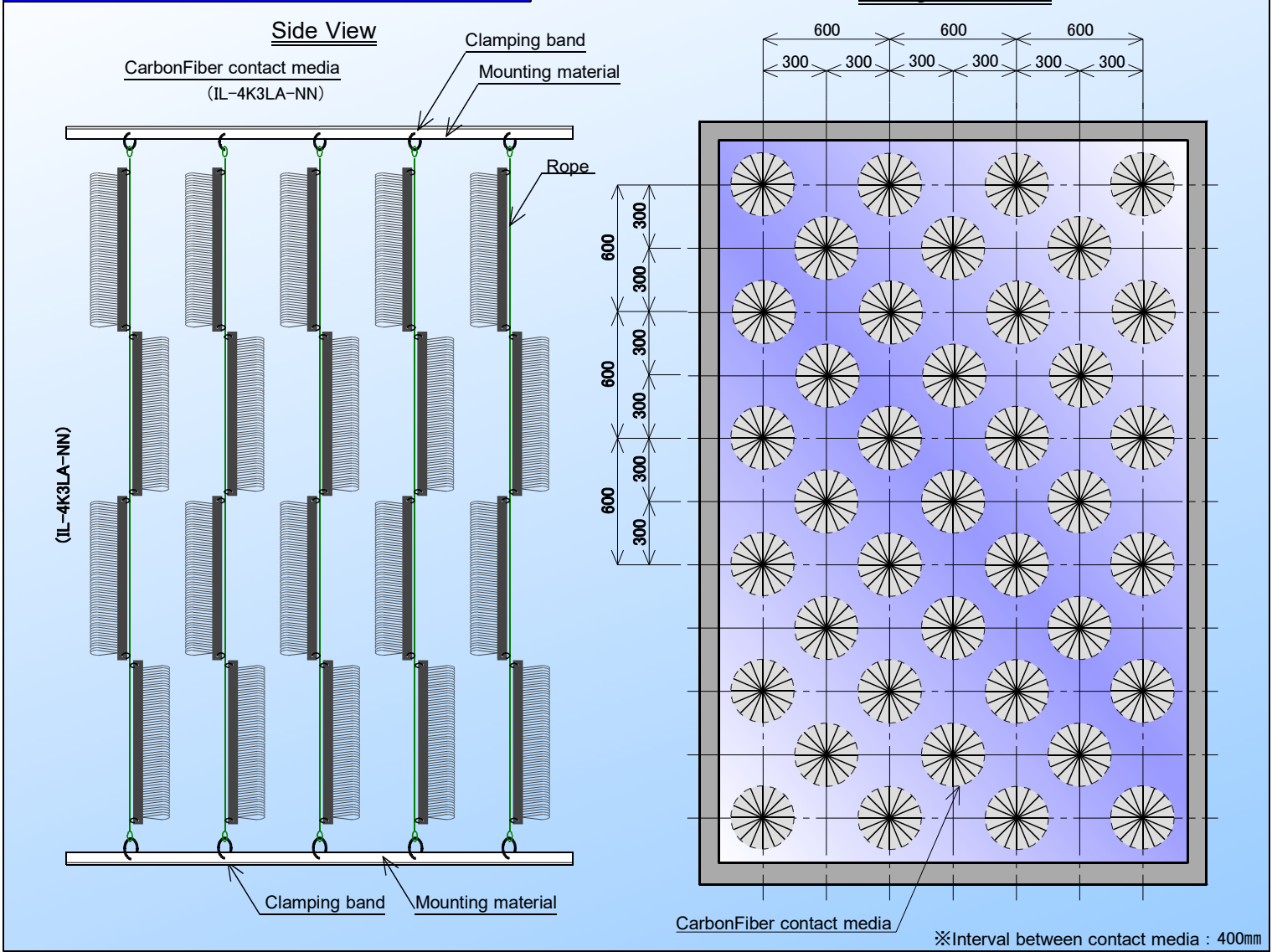


# CarbonFiber Contact Media for Biofilm Process



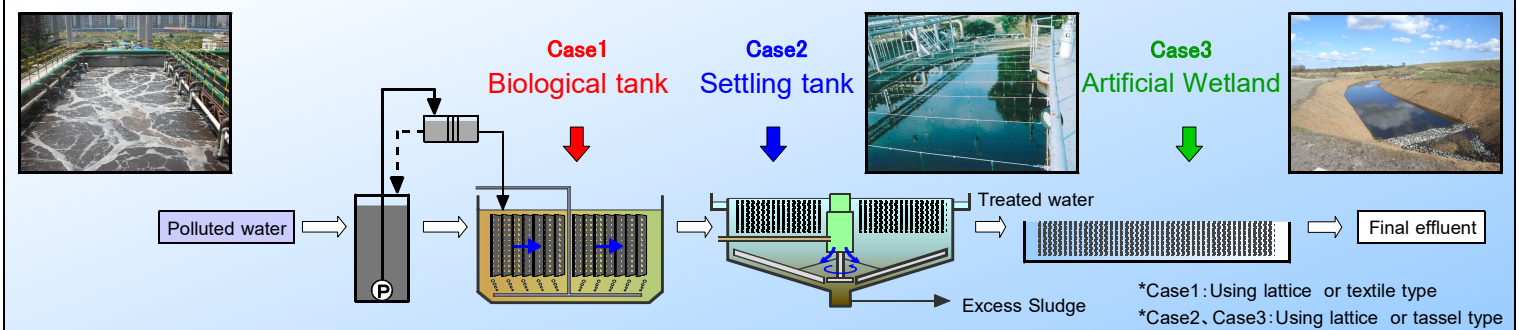
# Standard Installation of Length Connection Set



## MiraCarbon for contact media

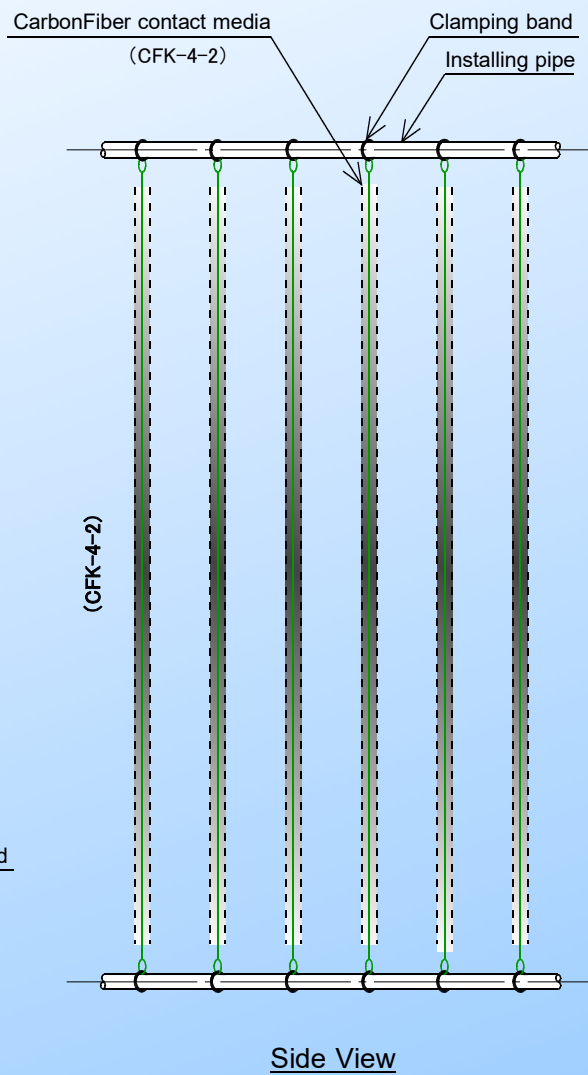
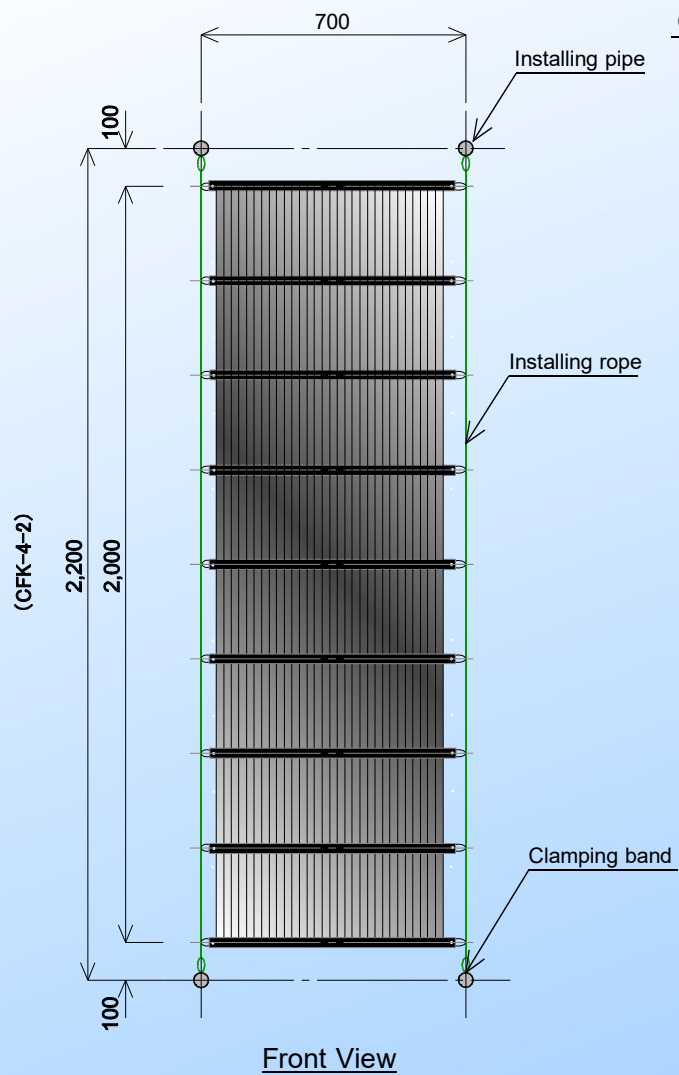
Model	Tassel Type 【CFK-3】	Tassel Type 【CFS-2】	Lattice Type 【CFK-4】	Textile Type 【CFH-2】
Image				
Weight	20 g	20 g	60 g	500 g
Effective Surface	10m <sup>2</sup>	10m <sup>2</sup>	15m <sup>2</sup>	50m <sup>2</sup>

## Contact media installation site in wastewater plant

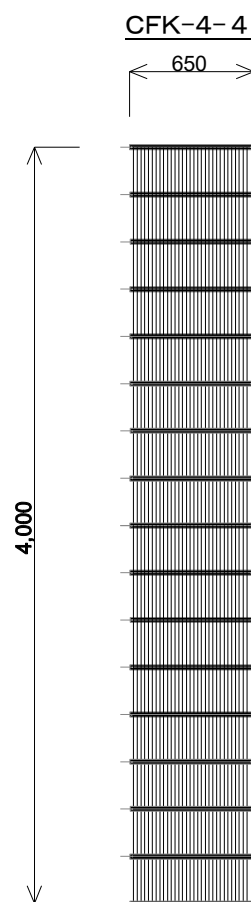
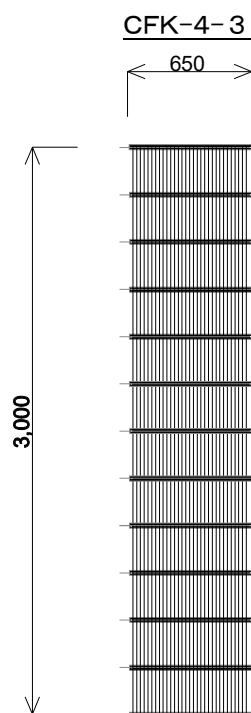
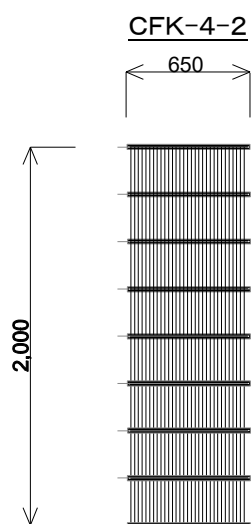
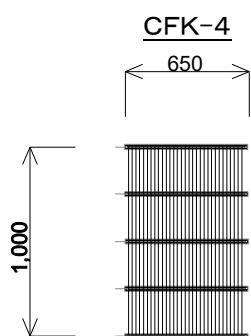




# Standard Installation of lattice type CFK-4



※Interval between contact media :  $\geq 100\text{mm}$



## CFK-4 standard specification

Model	Length	Weight	Effective Surface
CFK-4	1 m	60 g	15m <sup>2</sup>
CFK-4-2	2 m	120 g	30m <sup>2</sup>
CFK-4-3	3 m	180 g	45m <sup>2</sup>
CFK-4-4	4 m	240 g	60m <sup>2</sup>

\* Width is fixed as 65 cm.

\*The length can be ordermade by 25cm unit according to the water depth.

# CarbonFiber Contact Media for Biofilm Process MiraCarbon

## ●General Characteristics of Contact Media

Model	CF amount(g)	Effective Surface
MiraCarbon CFK-3	20g	10m <sup>2</sup>
MiraCarbon CFS-2	20g	10m <sup>2</sup>
MiraCarbon CFK-4	60g	15m <sup>2</sup>
※Textile Type	100g	10m <sup>2</sup>

\* The effective surface of textile CarbonFiber is per 100g  
 \* The weight of textile CarbonFiber is 500g/m<sup>2</sup> per textile area

◆Effective Surface : Tassel type 0.5m<sup>2</sup>/g (CFK-3, CFS-2)  
 Lattice type 0.25m<sup>2</sup>/g (CFK-4)  
 Textile type 0.1m<sup>2</sup>/g

◆Surface load of sludge : 50g/m<sup>2</sup>

## ●Required surface area and quantity of Tassel Contact media

Surface (m <sup>2</sup> /m <sup>3</sup> )	Tassel Type (CFK-1 CFS-2)		Lattice Type (CFK-4)	
	CF amount(g)	Quantity	CF amount(g)	Quantity
100	200	10	420	7
150	300	15	600	10
200	400	20	840	14
250	500	25	1020	17
300	600	30	1200	20

\* The Standard of tassel type is MiraCarbon CFK-3, CFS-2.  
 \* Installation method depends on MiraCarbon tassel type qty.  
 \* The length of MiraCarbon lattice type is determined by water depth as CFK-4 as standard.  
 \* MiraCarbon lattice type is attached to installation equipment by installing rope

## ●The characteristics of CarbonFiber contact media

### ●Mass adhesion of activated sludge

The filament surface is uneven, so the absorbing amount on each surface is large. The filaments are close to each other, and it can keep mass sludge between filaments. Because sludge gets in deep inside of the clusters, it makes longer residence time. Thus, it can prevent waste sludge.

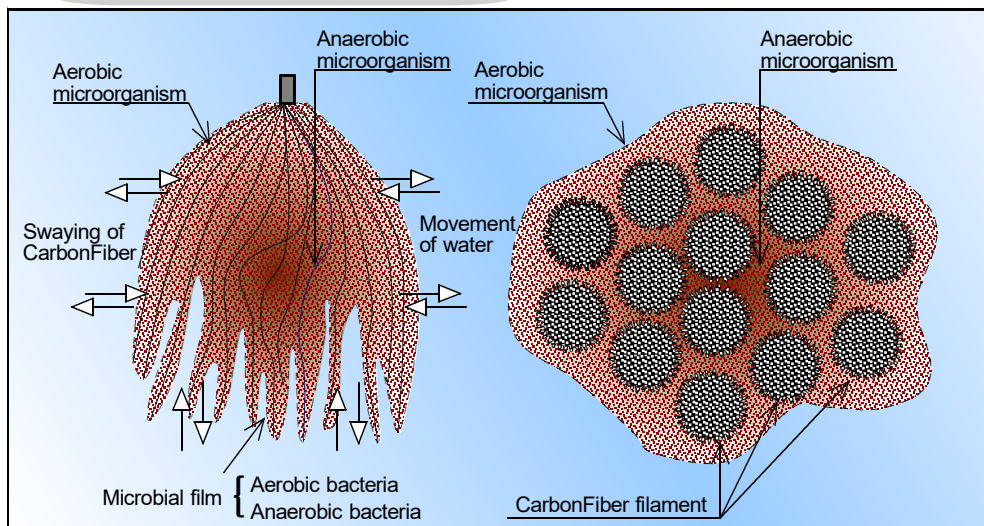
### ●Treatment by microorganism activation

Anaerobic bacteria accumulate in the deep inside of the filament cluster. Aerobic bacteria with high activation also accumulate around it by swaying its filament and current of water. Microorganisms activate with swaying filament, and then organic matters such as BOD・COD are decomposed.

MiraCarbon facilitate decomposition and removal of nutrient salts such as nitrogen and phosphorus.

## ●Mechanism of water purification

\* Anaerobic bacteria stay inside of CarbonFiber while aerobic bacteria stay in its surface.



### ◆Application consideration

1. MiraCarbon has equal to or larger total specific surface area than advanced activated carbon. However, as contact media, pores inside of filament are not effective for sludge adhesion, so only outside surface area is included to calculate.
2. Because textile CarbonFiber does not spread in the water, effective surface area decreases.
3. Large amount of sludge are attached on the uneven filament surface and between filament.
4. Please use lattice or textile type contact media in case of faster than 0.3 m/s flow or aeration since fiber might be cut down.
5. Please refer each catalogs for MiraCarbon, installation set, and unit.

## ● Specification

- Material : PAN Water-soluble sizing
- Filament : 7μm × 15,000qty
- Effective surface : Tassel type 0.5 m<sup>2</sup>/g  
 Lattice type 0.25 m<sup>2</sup>/g  
 Textile type 0.1 m<sup>2</sup>/g
- Weight per unit length : 1.0 g/m

## ● Application

- For activated sludge process in effluent facility
- For treatment speed, water quality, amount
- For decrease of waste sludge
- For biotreatment in food and chemical factory
- For settle and effluent tank and effluent quality
- For treatment of rivers, lake/marsh, and sea

### Spreading and movement of CarbonFiber



## ■Manufacture

**so-en**  
 think earth

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