TEIJIN

Human Chemistry, Human Solutions

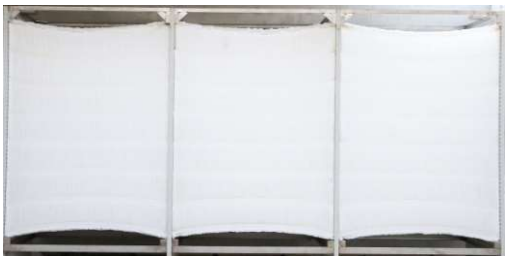
TEIJIN FRONTIER CO., LTD.

Fibrous Media for Wastewater Treatment

■ Features

1 High density of microbes on the media

The 3D-structure of these media made of special fiber provides an extremely large surface area that ranges from 4,000 to 5,000m²/m³. The amount of sludge deposits per unit media weight is two to four times larger than that of similar products.



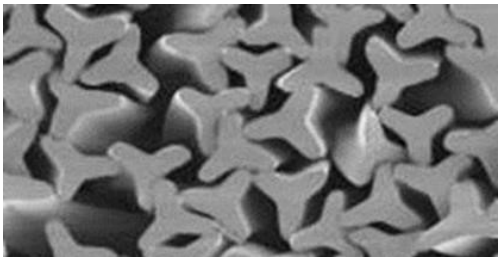
Fibrous media

2 Stable wastewater treatment

Wastewater can be treated consistently and steadily with highly activated microbes on the media.

3 Improved capacity at existing facilities

High-load operation is possible.



Cross-sectional view of the fiber

- **Persistent organic pollutants can be decomposed, and bacteria resistant to biotreatment inhibitors can also be supported on the media.**

  Slow-growing microbes can be stayed in the tank.
  *The level of biological treatability varies depending on the subject organic substance.

- **These media can be easily applied to existing water tanks.**

  The media can be customized to fit the dimensions of water tank.

- **Excess sludge generation can be reduced.**

  A significant reduction of excess sludge generation is possible in low-load operation.

- **Easy operation management**

  No need to return sludge or wash the media. The level of aeration is as the same as convention contact oxidation methods.

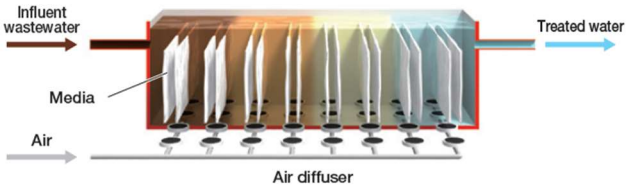
- **Long life**

  Excellent durability.

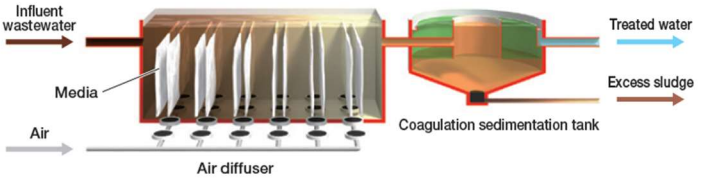
Example of installed fibrous media

■Examples of process using media for wastewater treatment

When treated water is discharged into a sewer
Depending on the wastewater properties and processing conditions, treated wastewater can be discharged directly into a sewer without the need to install a sedimentation tank.



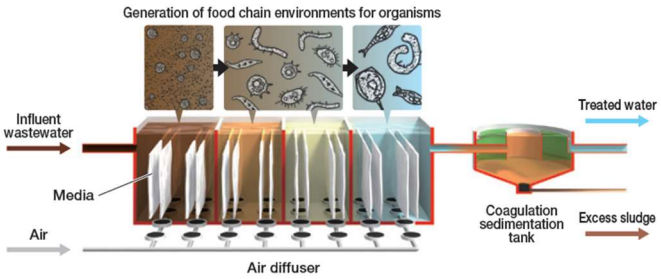
High-load wastewater treatment
As these media support larger amounts of microbes than conventional media, the biological reaction tank can be downsized. High-load wastewater treatment is possible if these media are combined with a sedimentation tank. Even in this case, a reduction in the amount of excess sludge can be expected.



When the amount of excess sludge needs to be reduced
The reaction tank is divided into multiple compartments to set the media. This will create environments where various organisms can inhabit, reduce the generation of excess sludge through the food chain and self-oxidation.

■Results of collaborative research with the Japan Sewage Works Agency

Item	Targets	Demonstration test results
Basic performance	BOD≤15mg/l Total nitrogen to be reduced by 50%	BOD≤15mg/l Total nitrogen was reduced by 50% as targeted
Sludge reduction	Amount of excess sludge to be reduced by 70% or more	Reduced by 77%
Ease of operation	Easy operation management	No need to control the amount of activated sludge. Operation was successful without the need to return sludge.



■Examples of installation


Pharmaceutical plant in Japan


Chemical plant in China


Automobile seat plant in China


Raw material for cosmetics plant in Japan


Sewage treatment facility (B-DASH project) in Japan


Automobile plant in China


Dyehouse in Angora


Sewage treatment facility in China

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