

Application of MBBR Technology In Textile dyeing Wastewater Treatment

BioCell
MBBR & IFAS Technology



Case study	Textile dyeing Wastewater
Start Up	January 2016
Capacity	9,600 m ³ /d
Location	Bangkok Thailand

Overview

Toray Industries, Inc is an integrated chemical industry group developing its business in 26 countries and regions worldwide.

Toray develops the Foundation Businesses of fibers & textiles and plastics & chemicals as well as businesses such as IT-related products, carbon fiber composite materials, pharmaceuticals & medical products, environment & engineering including water treatment.

TORAY
Innovation by Chemistry



LTX MILL 2 is a TORAY factory which is located in Bangkok Thailand, this factory's main products are the synthetic textile, the amount of daily discharge is about 9600m³, and main component of the wastewater is Textile dyeing Wastewater, the characteristics as below:

- ◆ The high content of the organic pollutants, and the organic matter is difficult to degrade. B/C ratio is lower, only about 0.3, biodegradability is poor.
- ◆ These high chroma, sometimes as high as 4000 or more.
- ◆ The alkalinity and pH value changed varied, and the water quality changed violently.

Challenge

The existing plant major process is Anaerobic+Aerobic (Active Sludge) biological treatment technology, after more than ten years of operation, equipment obsolescence, unstable operation, it is difficult to promote the local discharge criteria.

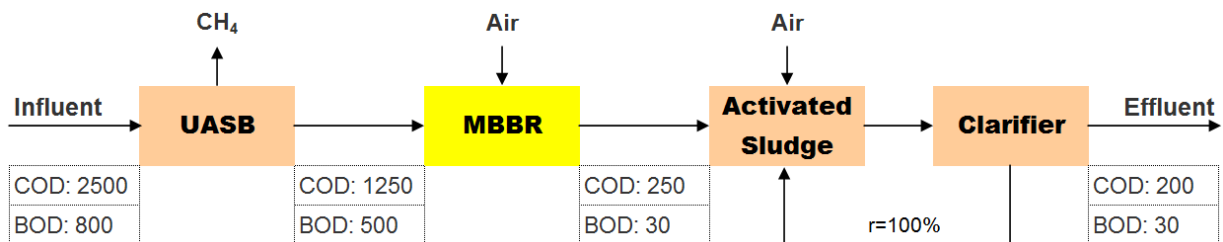
According to owner’s requirements, upgrade the existing plant, Improve the stability of effluent quality. To solve the problem of activated sludge bulking.

The Inlet and outlet values of the biological treatment system as follows :

Project	Unit	Influent	Effluent
COD	mg/L	2,500	200
BOD	mg/L	800	30

Solution

Upgraded the existing front active sludge tank to MBBR process, adding a certain number of BioCell media to the reactor, increase the capacity and the reinforcing of impact for the system.



Results

Effluent COD were well removed, the settling performance of activated sludge was greatly improved.

