

TÜBİTAK – İstanbul Şekerpınarı Earthquake Residences Pilot Treatment Plant



Plant is in İstanbul Gebze.

Plant Description:

- Tübitak has constructed a pilot plant to study the submerged biological membrane treatment system.
- Pilot plant treats Şekerpınarı earthquake residences wastewater.
- Effluent quality achieved meets the most stringent requirements.
- The MBR contract agreement provided for the process design, specification and supply of flat sheet membrane units.
- Additional services provided were M&E design assistance, inspections during installation, assistance to start-up, commissioning and membrane maintenance advice plus operator and management training.

Status	In operation since 2006
Client	Tübitak- MAM
Commissioned	2006
Req.discharge quality	BOD < 5 mg/l, SS < 5 mg/l , 0 parasites
Performance	Design criteria is met.
Brief description:	Pilot plant for Tübitak's membrane technology studies

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Process Description:

Tanks are steel constructed over skid. Feeding is through bi-directional 3mm screen. Single stream system has separate aeration and membrane tanks.

Design Requirements

Influent average loadings:

BOD	375 mg/l
COD	800 mg/l
TKN	45mg/l
NH ₃ –N	40mg/l
SS	300mg/l
TDS	5,000mg/l

Effluent standards

BOD	5 mg/l
Total N	5 mg/l
Total P	1 mg/l
NH ₃ –N	2 mg/l
SS	5 mg/l

Plant Data

Maximum daily flow	4 m ³ /d
Average daily flow	4 m ³ /d
Peak flow	5,4 m ³ /h
MLSS aeration tank	12,000 mg/l
Membrane units	1 x XR10
Membrane area	8 m ²
Sludge age	25 days

Current performance

BOD	<5 mg/l
COD	<60 mg/l
Ammonia	<2 mg/l
TKN	<7 mg/l

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