

Milano San Rocco wastewater treatment plant



The Milano San Rocco municipal wastewater treatment plant, which handles wastewater for a population equivalent of 1,050,000 is a facility of prime importance for Milan, improving the city's environmental quality and conserving its water resources.

Construction began in September 2002 and was completed in just 21 months on 7 June 2004, 86 days ahead of the contract schedule.

Located in a protected agricultural estate south of Milan, between the districts of Rozzano and Opera, the plant is fully compliant with the principles of sustainable development. Its versatile structures can accommodate exceptional storm water loads and practically all the treated water can be reused for farm irrigation.

The SUEZ Italy team worked in close technical partnership with the Group to ensure that construction proceeded swiftly and that commissioning was successful.



treatment lines

the plant

water line

pretreatment:

- screening
- 4,900 m³ grit and grease removal tanks

biological treatment:

- step feed activated sludge system

filtration:

- 10 Aquazur® V (1,564 m²).
- Densadeg® settling tank (for wash water)

disinfection:

- final treatment by ultraviolet radiation

- The plant's strongest point is the simple design of its treatment process. The activated sludge technology adopted is a tried and tested method already used in many facilities. In this specific application, it is further optimized by a biological treatment stage (step feed and alternating zones processes). With this solution, treated water not only significantly exceeds the requirements of current regulations but is also in line with foreseeable legislative changes. The final step in the treatment chain, disinfection by ultraviolet radiation, produces water suitable for agricultural irrigation at a rate of 14,400 m³/h in the dry season, making a significant contribution to water resource conservation.
- SUEZ has taken the principles of sustainable development even further, introduced a sludge drying stage to confer the sludge to the cement industry needs. In this way the sludge of wastewater treatment plant can be used as eco-compatible additional fuel and ashes are fixed in the cement avoiding thus the dispersion of biological treatment by-products in the atmosphere. The polluted air is extracted and deodorized in two scrubbing towers, making the facility even more readily acceptable to local people. The plant has no odor or auditory or visual impact on the neighborhood or the natural environment.

sludge line

- sludge thickening by GDD® direct thickening screen
- mechanical dewatering with plate filter press
- thermal drying (final dry content 65-90%)

air line

- 100,000 m³/h of air treated in two scrubbing towers by sulfuric acid, chlorine and sodium hypochlorite

performance

population served: 1,050,000 PE

capacity:

daily average	345,600 m ³ /d
dry season average	14,400 m ³ /h
wet weather maximum	43,200 m ³ /h

water characteristics	intake	effluent
DBO ₅	168 mg/l	10 mg/l
suspended solids	162 mg/l	10 mg/l
nitrogen	35 mg/l	10 mg/l
phosphorus	5 mg/l	1 mg/l

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Since March 2015, all the Group brands (Degrémont, Ozonia, Aquasource, Ondeo IS, Ameriwater, Infilco, Poseidon...) became SUEZ.

Meanwhile, from now on, the technologies and know-how of our Treatment Solutions offer will be distinguished with the label **degrémont®**.