

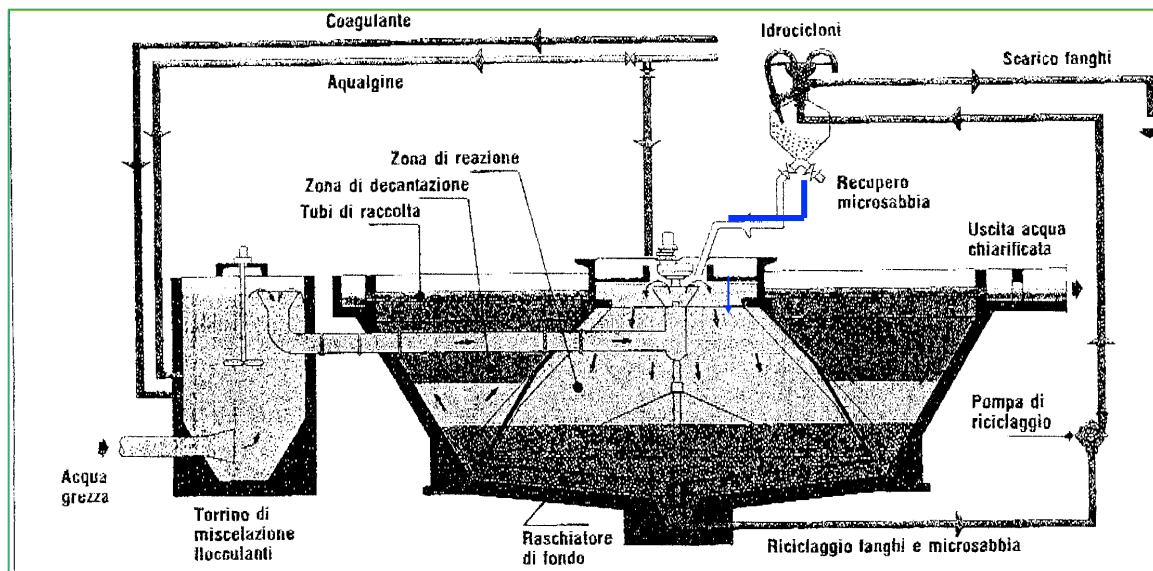
Case Study: Turin River Po Water Treatment Plant Turin, Italy

Introduction

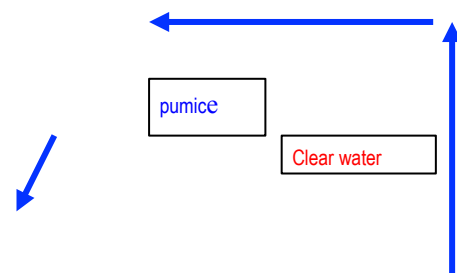
The Turin, River Po, Water Treatment Plant is an example of the replacement of microsand with pumice as a flocculation aid and ballast agent in the clarification process with the Cyclofloc™ system. The advantages of pumice were determined to be:

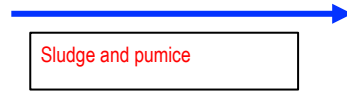
- Reduces wear and tear of hydrocyclons.
- Less abrasive ($\text{SiO}_2 = 70\%$)
- The high porosity allows pumice to increase its own initial weight by 50% when brought into contact with water.

1. **Client:** Turin Municipal Water Authority
2. **Type of Plant:** Portable and Waster Water Treatment Plants for the city of Turin, N. Italy
3. **Objective:** Construction of plant using a clarification process to treat surface water from River Po.



4. **Type of clarification process:** Cyclofloc™





Main phases of Cyclofloc:

- Raw water is introduced into a fast mixing tank and comes into contact with coagulants.
- The flocs resulting by the coagulated suspended solids are conveyed into another tank where pumice has been added.
- The increased density of pumice (*) ballasts flocs.
- Pumice facilitates gravitational settling of flocs that precipitate to the bottom of the tank.
- Sludge mixed with pumice is collected at the bottom of tank and pumped into the hydrocyclons.
- There, the lighter sludge is separated from the heavier pumice by centrifugal force.
- Pumice is collected and recycled while sludge is conveyed towards the sludge treatment tank.

As illustrated in the schematic below the clarification process occurs prior to filtration for drinking water production (surface water treatments).

Details of the Clarification system are listed below:

- Number of clarifiers 5
- Type of clarifier Cyclofloc
- Diameter of each tank (cone – shaped) 24m (79 feet)

CR Minerals supplies pumice that meets all US and European standards for use in drinking water applications, NSF-61, DIN EN 12906

To place an order or obtain additional information, please contact CR Minerals at 505-428-2940, or contact your local distributor

