

## **PRE-TREATMENT OF CIVIL WASTE E TREATMENT OF SEWERAGE NETWORKS**

Wastewater treatment problems also arise from the lack of attention paid to the condition of the sewage collectors.

The treatment developed and proposed by AVKEM consists in transforming the sewage network into a large bioreactor, a real highly efficient biological treatment system.

The application of AVKEM technology and products allows to restore the conditions of the sewage system, reduce maintenance costs and pre-treat the sewage, improving its quality at the entrance to the purification plant.

### **The main benefits that can be obtained by applying the technology are:**

- Normalization of conditions in the sewage networks through better equalization of wastewater
- Drastic reduction of sludge and sedimented and suspended organic substances
- Reduction of unpleasant odors, possibly up to their complete disappearance
- Reduction, up to disappearance, of all organic encrustations along the network (amalgams of fats and surfactants), drastically reducing the programmed or emergency interventions by means of canal jets, which in the long run damage the sewers
- Drastic reduction of the main pollution indexes
  - COD reduction from 30 to 50%
  - TSS reduction 30%
  - Increase of the redox potential with consequent reduction of Organic Nitrogen, reduction of ammoniacal nitrogen and activation of the oxidation of the organic substance
- Reduction of corrosion phenomena in the collectors due to the lower production of H<sub>2</sub>S
- Increased effluent quality
- Reduction of operating, maintenance and cleaning costs.

The products used contain selected bacterial strains together with a cocktail of trace elements, in order to cover a broad spectrum of degradation.

### **Where are they used?**

Biological treatments, as described for sewage networks, have also been successfully used in the following areas:

- Pumping stations
- Open drains, if still present, in these cases there is also a reduction in the thickness of the sedimented organic sludge
- Septic tanks, through the reactivation of the bacterial flora usually exterminated by the strong acids and bases used, in domestic environments which drastically reduce the annoying odors and the purging interventions, consequent to the strong reduction of the solid organic substances present.

## Applications

- The dosage of the bacterial cocktail is consequent to the number of equivalent inhabitants that weigh on the manufactured object of the treatment (sewer system, septic tank, drainage channels).

## Mode

- It must be dosed upstream of the section concerned in the sewage networks.
- In septic tanks, it must be dosed directly into them or into the toilets of the apartments
- In the drainage channels it must be dosed at the beginning of the section

## SIGNIFICANT RESULTS OF THE TREATMENTS

### BEFORE THE TREATMENT



AFTER THE TREATMENT

